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ANDROID ADVISOR

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MEET GOOGLE'S PIXEL 6 & 6 PRO

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Credit: Getty Images/diego_cervo

Google unveils Pixel 6 and 6 Pro smartphones

While the phones haven't yet launched, Google has officially confirmed the Pixel 6 and 6 Pro are coming. CHRIS MARTIN reports

The excellent Pixel 5 is Google's current flagship phone, but time stands still for no device, so we take a look forward at what to expect when its successors – the Pixel 6 and 6 Pro – arrive. In this article, we'll explore the expected release date, price and the new specs suggested to appear on Google's next flagship phones.

RELEASE DATE

Google officially announced the Pixel 6 and 6 Pro in a press release published in August – see fave.co/3grDv53. While it

didn't make mention of a specific release date, it repeatedly promised an autumn arrival, in line with past Pixel releases.

PRICE

Pricing is a bit less reliable when looking at past releases. Back in 2018, the Pixel 3 cost £739, but when the Pixel 4 came along, its price was £669. The cost of ownership dropped even lower with the Pixel 5, which, at the time of writing, you can buy for £599.

Sadly, we don't see this descending trend continuing, with the company's hardware executive, Rick Osterloh telling German site Der Spiegel, that the next Pixels "will be expensive".

While Osterloh didn't throw out any specific figures at the time, he did allude to the fact that recent Pixels haven't readily intended to compete with the top-tier devices pushed out by rivals.

As for the Pixel 6 Pro, we imagine it will be at least £100 more than the Pixel 6.

DESIGN

While Google's August announcement didn't reveal everything the Pixel 6 line would be bringing to the table, it did confirm a number of previously-leaked details, covering both the phones' design and hardware (as well as putting to bed the debate over whether the larger phone's name would be the 'Pixel 6 XL' or 'Pixel 6 Pro').

The company calls the jutting camera arrangement across each phone's back a "camera bar" and it's reportedly needed to accommodate the 'upgraded' rear camera system. Google says it features "improved sensors and lenses" that are "too big to fit into a traditional square".

Google didn't get into specifics, but it did state that both phones "have new materials and finishes, too – like the Pro's light polished aluminum [sic] frame, and the 6's matte aluminum [sic] finish".

These Pixels also appear to be reverting back to glass-backed designs, similar to the first three generations of

Google calls the black bar on the phone's rear a "camera bar".

Pixel; with contrasting colours on either side of that distinctive camera bar.

Speaking of colours, Google's characteristically quirky names for the colourways shown above haven't yet been published, however, tipster TechScoreNY has put forward 'Sorta Orange', 'Arctic Blue' and 'Mostly Grey'. These names were originally in reference to the 6 Pro specifically, however, assuming the images Google has since supplied are the only finishes for each model of phone, it's thought that 'Arctic Blue' might relate to the blue/green finish seen on the standard Pixel 6 depicted on the previous page.

While Google's initial round of official images does include shots featuring a centrally-positioned front-facing hole-punch camera, it looks like the Pixel 4a/4a 5G/5/5a's reinstated rear fingerprint scanner has gone, this time replaced with an in-display alternative.

SPECIFICATIONS

Google hasn't yet handed out a complete spec sheet for these freshly-teased phones, but here's what we know so far.

Google Pixel 6

- 6.4in (2,340x1,080; 403ppi) AMOLED, 90Hz, HDR10+ display
- Android 12
- Google Tensor (5nm) processor
- Octa-core CPU
- 12GB RAM
- 128GB/256GB/512GB storage
- Two rear-facing cameras: 50Mp, (wide), PDAF, OIS; 12Mp, (ultra-wide)
- Selfie camera: 12Mp
- Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct, hotspot
- Bluetooth 5.2, A2DP, LE, aptX HD
- GPS with A-GPS, GLONASS, GALILEO, QZSS, BDS
- NFC
- USB Type-C 3.1
- Fingerprint scanner (under display, optical)
- Non-removable battery
- Fast charging
- 160.4x75.1x8.2mm

Google Pixel 6 Pro

- 6.71in (3,120x1,440; 512ppi) AMOLED, 120Hz, HDR10+ display
- Android 12
- Google Tensor (5nm) processor
- Octa-core CPU
- 12GB RAM
- 128GB/256GB/512GB storage
- Three rear-facing cameras: 50Mp, (wide), PDAF, OIS; 48Mp, (telephoto), PDAF, OIS, 4x optical zoom; 12Mp, (ultra-wide)
- Selfie camera: 12Mp
- Wi-Fi 802.11 a/b/g/n/ac/6, dual-band,

Wi-Fi Direct, hotspot
- Bluetooth 5.2, A2DP, LE, aptX HD
- GPS with A-GPS, GLONASS, GALILEO, QZSS, BDS
- NFC
- USB Type-C 3.1
- Fingerprint scanner (under display, optical)
- Non-removable lithium-polymer 5,000mAh battery
- Fast charging
- 163.9x75.8x8.9mm

PROCESSOR: TENSOR SOC

Google has revealed some of what we can expect from the custom silicon, destined for its flagship phones; sporting what it calls "Tensor" – a name we've already seen affiliated with a number of other Google projects, in relation to AI computing and machine learning.

The new Pixel 6 line-up will be the first to feature Google's Tensor chip.

An official statement states: "Tensor enables us (Google) to make the Google phones we've always envisioned – phones that keep getting better while tapping the most powerful parts of Google, all in a highly personalized [sic] experience. And with Tensor's new security core and Titan M2, Pixel 6 will have the most layers of hardware security in any phone."

While that doesn't shed a huge amount of light on just how exactly Tensor pulls away from the Snapdragon chips the company was previously sticking into Pixel devices, leaks leading up to this announcement referencing the chip's codename 'Whitechapel' add a little extra illumination.

GS101 'Whitechapel' (GS likely meaning 'Google Silicon') supposedly shares in Samsung's latest Exynos chip design and architecture, along with some of its software components.

It's supposedly made on a 5nm process (matching the 888 and Exynos 2100) and – as subsequently reiterated by

Google – focuses on AI and machine learning tasks, which means users can expect improvements in areas such as photography.

One thing we can predict is that the Pixel 6 will come with an Ultra-Wideband (UWB) chip and – combined with NFC – will support the new Digital Car Key feature in Android 12, allowing you to unlock a compatible vehicle with your phone.

POWER AND CHARGING

It seems the US and Japan-only Pixel 5a will be the last of the company's phones to ship with a charger, meaning the Pixel 6/6 Pro won't come with an adapter. Google's argument is in favour of reduced environmental impact, but it's hard not to ignore the cost benefits such a change also brings to the company.

At the same time, it's been reported that Pixel 6 test devices have been spotted plugged into 33-watt fast chargers, which if refilling Google's next smartphones at full pace will render the Pixel 6 line the fastest-charging phones in Pixel history, with devices previously topping out at 18 watts.

It also seems Google is working on a new wireless charging stand for the Pixel 6, that will include a cooling fan. There's no word on power output, but the fan will help keep the phone cool while it charges and looks like it will slow down if you wake the Google Assistant, presumably so the microphones can hear you better.

Designated 'Luxuryliner', it will be a follow-up to the £69 Pixel Stand'.

4 takeaways from Google's Pixel 6 preview

Google's Pixel 6 unveiling gives us plenty to look at, but the most important messages are under the surface. JR RAPHAEL reports

Well, it looks like the brightly coloured cat is out of the metaphorical bag. The feline in question is none other than two Pixel 6 phones. Google pulled off its new trick and let the air out of the rapidly leaking balloon by announcing its Pixel 6 and 6 Pro months ahead of their actual debuts.

And these new models are pretty different from Pixels past, too. As had been widely expected, they're the first Google-made phones to feature a Google-made processor – a distinction we've been talking about for quite a while and one that could go a long way in separating the phones from the rest of the Android pack.

We've already taken a look at the new phones design and specs (page 6). Here, I want to focus on four under-

emphasized effects of the Pixel 6 preview – a combination of between-the-lines suggestions and off-hand remarks that are getting less attention than the shiny outer shells and homemade innards.

1. THE SOFTWARE SUPPORT SHAKEUP

This first Pixel takeaway is one I haven't seen come up at all, directly, as part of the current Pixel 6 blitz – but it's arguably the most important effect of Google's shift to a self-made processor.

By having its own custom chip inside the Pixel, Google will be able to support these phones with software updates for far longer than what's currently possible on Android.

While Google hasn't announced anything official about it yet, signs suggest the Pixel 6 and 6 Pro could come with a full five years of Android operating system updates. That's a huge step up from the platform's current three-year max, to say the least – and it could have some pretty significant implications, as we'll explore further in a moment.

2. THE 'ANDROID PIXEL' FACTOR

A hefty chunk of Google's Pixel 6 marketing materials focus on the way the phones showcase the new Material You theming system at the centre of Android 12. It's much more than a fresh coat of paint: Material You is a complete reimagining of the Android experience – think Android on some super-mellow mood enhancers. And it revolves around an ambitious new feature that taps into your own personal wallpaper to create a custom system-wide palette that then stretches across the entire Android experience – everything from your Quick Settings panel and settings screens to icons on your home screen and even the interfaces within apps.

Eventually, the implications will stretch even further than just your phone,

Material You is a complete reimagining of the Android experience

too: Google says your custom design choices on Android will at some point travel with your account across every app and type of device you use – applying to Google apps on the web as well as to Chromebooks, Smart Displays and Wear-based wearables. This is a Google ecosystem move, in other words. And the Pixel, it seems, could be the sole smartphone product to tie into that new cross-platform thread in its full and unadulterated form.

That, suffice it to say, is a monumental shift both for what the Pixel represents within Android and what Android itself represents as an operating system.

3. THE PIVOT BACK FROM THE PREVIOUS PIVOT

Last year, Google threw us a curveball with its Pixel product plan. After four years of establishing the Pixel as a premium, flagship phone, the tech giant came out with the Pixel 5 – which completely redefined what the brand stood for and what it was all about.

The Pixel 5 wasn't a top-of-the-line, top-dollar phone, nor was it meant to be. It was positioned as a more affordable phone that focused on the qualities that mattered the most but cut out many of the fancier niceties in order to hit a lower price. It was a move back toward the old Nexus model from Google's past, in a sense – where you could get a good, solid Android phone with exceptional software and without some of the higher-end bells and whistles for a surprisingly decent price.

As part of that, the Pixel 5 lacked the more premium metal or glass constructions its predecessors possessed, and it eliminated the just-launched (and heavily promoted) face unlocking technology the Pixel 4 had introduced a mere year earlier. It seemed to make sense from a sales perspective, as we pointed out at the time, since Google hadn't managed to make its high-end Pixels take off but had seen lots of success with its more economical Pixel 'a'-line phones.

Oh, yes: Google has pivoted back from its previous pivot and returned to the high-end, premium flagship approach for the Pixel, just one year after ever-so-briefly redefining the brand. It's one hell of a dizzying spin, even by Google's vertigo-inducing standards.

To be fair, we don't know exactly how much the Pixel 6 and Pixel 6 Pro will cost at this point. But in an interview with The Verge, Google hardware head honcho Rick Osterloh said they'd be in a "different" tier from the company's recent offerings and that the Pixel 6 would "certainly be a premium-priced product." As the author of that article

notes, it's tough to take that as meaning anything less than a thousand pounds.

The one saving grace, if Google manages to emphasize it effectively, could be that longer support life we talked about earlier. Think about it: if we arbitrarily say that one of the Pixel 6 models costs £1,200 but also assume that it'll get that full five years of software support we're expecting, that effectively means it'd cost £240 per year over the course of its advisable life. The similarly priced Samsung Galaxy S21 Ultra, in comparison, gets just three years of operating system updates – which makes it £400 per year of advisable ownership.

Only time will tell, of course, if Google finds a way to convey that advantage. Speaking of which...

4. THE MARKETING MACHINE

We're six years in now to Google's Pixel phone plan, and as of yet, the Pixel is still mostly a niche-level product for Android enthusiasts and other people 'in the know'. It's anything but a mainstream phone, and pretty much every set of market share stats reflects that.

Despite all of the Pixel's practical advantages over other Android phone options, its not-so-prominent positioning within the smartphone ecosystem isn't entirely surprising. Plain and simple, six years in, Google still seems to be doing barely anything – or barely anything effective, at least – to market the Pixel and make average phone-buying organisms aware of its most exceptional elements. And with every passing year and every new Pixel-exclusive element that gets added into the picture, that disconnect gets more discouraging.

Well, with the Pixel 6, Google says it's ready to start selling. "The product is really, now, The Google Phone," Osterloh told The Verge, "so we are ready to invest a lot in marketing and we want to grow."

Funny, because Google's been talking about the Pixel being "The Google Phone" since pretty much the first model. And it's been talking about moving the Pixel line beyond niche status and into mainstream position as a "next few years"-style goal for quite a few years now.

But maybe this time, it's serious. Maybe this time, it's ready to start pushing the Pixel properly. Maybe. We've certainly heard that story before, though, more than a couple of times.

Samsung just can't quit foldable phones: Meet the Galaxy Z Fold3 and Z Flip3

Samsung keeps iterating on its foldable phone line-up with better raw specs, S Pen support, and increased durability. JON PHILLIPS reports

Samsung has a fever and more foldable phones are the only prescription. And thus today the biggest name in Android phones announced the third generation of its foldable Galaxy smartphones: the Galaxy Z Fold3, a flagship model that opens like a book, and the smaller Z Flip3, a

less expensive model that opens vertically and harkens back to the flip phones of the early 2000s.

Both phones include new features to improve durability, which may help mitigate public perception that foldable phones just can't withstand the rigours of, well... repeated, incessant folding. And you're going to want a sturdier phone, given Samsung's price tags: £1,599/£1,699 for the Galaxy Z Fold3 and £949 for the Galaxy Z Flip3.

Shown here in its Cream option, the Z Flip3 comes with a 1.9in cover screen.

GALAXY Z FOLD3 5G: FEATURES

The Z Fold3 comes with S Pen support, and with its expansive 7.6in, 2,208x1,768 main display, it directly targets the Galaxy Note audience, which won't be getting a new model this year and may now be looking for a new productivity experience. The phone's Dynamic AMOLED cover screen (which you use when the Z Fold3 is folded up) is a no-excuses 6.2 inches with 2,268x832 resolution and 120Hz refresh rate for ultra-fluid screen response.

Anyone looking to buy the expensive Z Fold3 must have both deep pockets and big pockets, as this big boy is 6.2 inches tall and 0.6 inches thick when folded. As a point of comparison, the iPhone 12 Pro Max is about a quarter-inch thick.

Both the Fold3 and Flip3 promise a new level of durability thanks to IPX8 water resistance; a new Armor Aluminium construction ("the strongest aluminium ever used on a Galaxy smartphone"); and Gorilla Glass Victus, Corning's strong phone glass ever. The phones also come with a new protective film made of stretchable PET, and Samsung promises the new folding screens are 80 percent more durable than what came in previous folding-phone generations.

Even with the Z Fold3 folded up like a traditional phone, you'll have access to

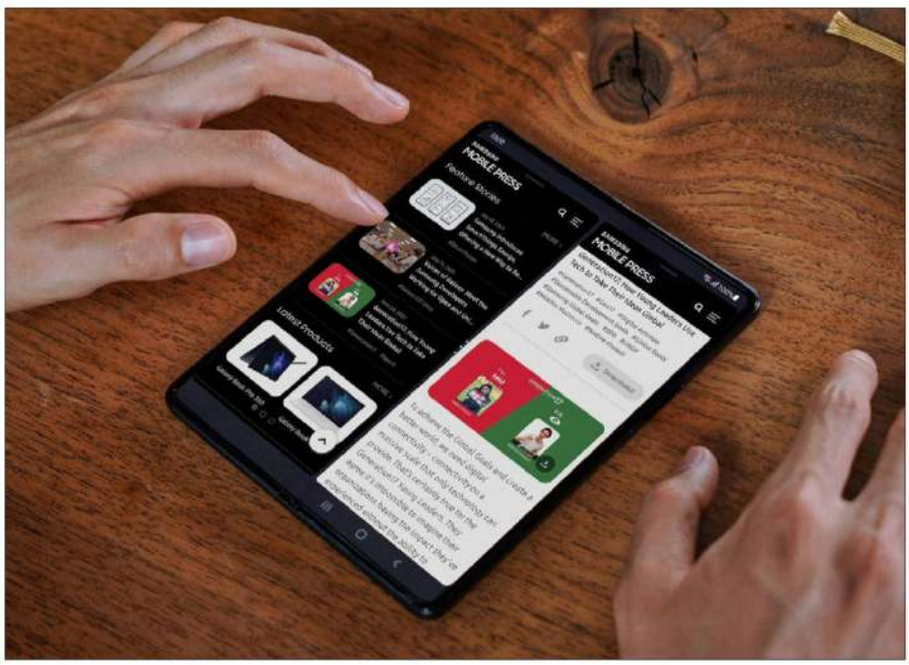
three rear cameras: an Ultra Wide (12Mp, 123-degree field of view); a Wide Angle (12Mp with 83-degree field of view, dual-pixel autofocus, and optical image stabilization); and a Telephoto (12Mp with a 45-degree field of view and dual optical image stabilization). At the front of the folded phone is a 10Mp camera with an 80-degree field of view.

When in its unfolded, tablet-like state, you'll also get a 4Mp camera with an 80-degree field of view for video calls. The reason for the lower resolution is because the camera is Samsung's first to fit under the display. While it's a neat effect that creates an unobstructed view when using the tablet, you'll still see the camera peeking through from under the screen in some lighting.

5G is standard on both models, and the Z Fold3 has 12GB of RAM and either 256GB or 512GB of storage. Samsung is being vague on the two phones' processors, but you can rightly assume it's using the Qualcomm Snapdragon 888.

Specifications

- 7.6in (2,208x1,768; 374ppi) Foldable Dynamic AMOLED 2X, 120Hz, HDR10+ display; Cover display, 6.2in (,268x832), 25:9 ratio Dynamic AMOLED 2X, 120Hz, Corning Gorilla Glass Victus display
- Android 11, One UI 3.1.1
- Qualcomm SM8350 Snapdragon 888 5G (5nm) processor
- Octa-core (1x2.84 GHz Kryo 680, 3x 2.42GHz Kryo 680, 4x 1.8GHz Kryo 680) CPU
- Adreno 660 GPU
- 12GB RAM
- 256GB/512GB storage
- Three rear-facing cameras: 12Mp, f/1.8, 26mm (wide), 1/1.76in, 1.8µm, Dual Pixel PDAF, OIS; 12Mp, f/2.4, 52mm (telephoto), 1/3.6in, 1.0µm, PDAF,



The Z Fold3 offers a tablet-like experience, thanks to a 7.6in, 2,208x1,768, 120Hz display.

OIS, 2x optical zoom; 12Mp, f/2.2, 123-degree, 12mm (ultra-wide), 1.12µm
- Selfie camera: 4Mp f/1.8, 2.0µm, under display; Cover camera, 10Mp, f/2.2, 26mm (wide), 1/3in, 1.22µm
- Wi-Fi 802.11 a/b/g/n/ac/6e, dual-band, Wi-Fi Direct, hotspot
- Bluetooth 5.2, A2DP, LE, aptX HD
- GPS with A-GPS, GLONASS, GALILEO, BDS
- NFC
- USB Type-C 3.2
- Fingerprint scanner (side mounted)
- Non-removable lithium-polymer 4,400mAh battery
- Fast charging 25 watts
- Unfolded: 158.2x128.1x6.4mm; Folded: 158.2x67.1x14.4-16mm
- 271g

Unfolded, the Galaxy Z Flip3 has a 6.7in display.

GALAXY Z FLIP3 5G: FEATURES

The smaller Z Flip3 may be the more intriguing proposition, as the modernized flip-phone design offers generous screen real estate and should fit reasonably well in today's ridiculously undersized jeans pockets. Folded up, it's a porky three-quarters-of-an-inch thick, but only 3.4 inches tall. Your pocket will protrude a lot, but you'll actually be able to sit down.

The whimsical Z Flip3 comes in Cream, Green, Lavender, Pink and White, and features a 1.9in Super AMOLED cover display that's four times larger than the previous Galaxy Flip generation. You can use the tiny display to view notifications, texts messages, and various widgets designed for the small form factor. The main screen is 6.7in with a 2,640x1,080 resolution. Not too shabby for a phone that's smaller than an Altoids box when folded up.

The Z Flip3 has a more sober array of cameras. The front selfie cam is 10Mp with an 80-degree field of view. On the back, there's a 12Mp Ultra Wide with a 123-degree field of view and a 12Mp Wide-Angle with a 78-degree field of

view, dual-pixel autofocus, and optical image stabilization.

Specifications

- 6.7in (2,640x1,080; 426ppi) Foldable Dynamic AMOLED 2X, 120Hz, HDR10+display; Cover display, Super AMOLED, 1.9in (512x260)
- Android 11, One UI 3.1.1
- Qualcomm SM8350 Snapdragon 888 5G (5nm) processor
- Octa-core (1x2.84 GHz Kryo 680, 3x 2.42GHz Kryo 680, 4x 1.8GHz Kryo 680) CPU
- Adreno 660 GPU
- 8GB RAM
- 128GN/256GB storage
- Two rear-facing cameras: 12Mp, , f/1.8, 27mm (wide), 1/2.55in, 1.4µm, Dual Pixel PDAF, OIS; 12Mp, f/2.2, 123-degree (ultra-wide), 1.12µm
- Selfie camera: f/2.4, 26mm (wide), 1.22µm
- Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct, hotspot
- Bluetooth 5.1, A2DP, LE
- GPS with A-GPS, GLONASS, GALILEO, BDS
- NFC
- USB Type-C 3.2, USB On-The-Go
- Fingerprint scanner (side mounted)
- Non-removable lithium-polymer 3,300mAh battery
- Fast charging 15 watts
- Unfolded: 166x72.2x6.9mm; Folded: 86.4x72.2x15.9-17.1mm
- 183g

Sony Xperia 1 III

Price: £1,199 from fave.co/2WgLI5j ★★★★☆

When Sony unveiled its Xperia Mark III line-up earlier this year, the company showcased what looked like an unmistakably familiar face. While the new flagship Xperia 1 III may resemble its predecessor, however, it promises a handful of notable upgrades and additions that stand out from the status quo.

Sony has occupied a relatively tiny corner of the smartphone market in recent years, further tailoring its Xperia smartphones to brand loyalists who value the company's technical expertise and distinct style of hardware and software above all else.

The Xperia 1 line serves as the pinnacle of its smartphone portfolio; each new revision offers a tighter and more refined experience than the last, leaning heavily on the company's expertise and technologies within other product categories; like its Alpha cameras, Bravia TVs and audio wares.

DESIGN

If you liked the look of last year's Xperia 1 II, you'll be thrilled to discover that the Mk III is cut from very similar cloth; a tall, slender glass sandwich, surrounded by a chamfered colour-matched metal frame.

Design-wise, Sony's approach of refinement over reinvention takes the form of changes to finish and texture, first and foremost. The glossy back of the 1 II is now rendered in a more sophisticated frosted Gorilla Glass 6, which not only looks better but more readily repels smudges and fingerprints, compared to last year's phone.

As with the Mk II, it makes for a confident, bold design that stands out from the crowd, even with the straight-sided iPhone 12 family now in the mix. Precise details, like the knurled physical dual-detent shutter button and toolless SIM/microSD card tray speak to Sony's eye for detail, while the design also happens to be IP65/68 dust and water resistance (nozzle projection and submersion for water).

A left-field tweak to the Mk III's form is an additional side button on the phone's right edge, beneath the centrally-positioned power key; with its (pleasingly responsive) integrated fingerprint sensor.

Its sole function is to summon the Google Assistant, but why Sony decided such an inclusion needed to be added to this generation of Xperia 1, in particular, is unclear; especially when there are already at least three other ways to access the Assistant, not to mention this feature could have just been added to the power key behaviour.

The fact that it sits flush to the frame and employs a pill-shaped design just like said power key makes for a problematic tactile experience; as despite being smaller and further down the phone's right side, both buttons feel confusingly similar when using touch alone to interact with them.

A button on the phone's right edge houses a fingerprint sensor.

The Xperia 1 III can be had in Frosted Black (pictured) or Frosted Purple.

DISPLAY

There are a lot of elements throughout the Xperia 1 III that don't follow the trends set by the competition and the Gorilla Glass Victus-protected display is a perfect example of this. Sony has seemingly led the charge on devices with tall, slender 21:9 aspect ratios and it's a trait that endures on this year's Xperia flagship.

There's also no notch, cut-out or under-display camera to speak of on the front; with a thicker top bezel than most rivals that hosts the selfie snapper and earpiece instead – just like the majority of phones used to.

This ultimately falls to a matter of personal preference, but there's little to take issue with in the case of Sony's implementation here; particularly as those bezels allow for a better hand-hold when viewing content in landscape orientation.

We described the display on last year's Xperia 1 II as nothing short of 'astounding' and, generally speaking, the Mk III can deliver equally arresting visuals, if not more so. The big upgrade here is refresh rate, with Sony confirming that you can theoretically enjoy 4K resolution media at 120fps, natively – something no other phone in the world can offer, right now.

Content at these figures is fairly limited at present; namely gaming or video content you shoot with the Xperia 1 III's own cameras.

In everyday use, the display adjusts resolution dynamically; serving up super-crisp visuals when it detects high-enough resolution source material, however, refresh rate doesn't share in this adaptive quality. The phone runs locked at 60Hz out the box and you have to dip into the settings menu to enable 120Hz mode.

Provided you're willing to accept the additional strain this places on the

The Xperia 1 III has a fantastic display.

battery (true of any phone with a high refresh rate display), the result is well worth it, though.

Even just moving around the user interface is a joy, with a responsiveness that better represents the powerful internals at the 1 III's disposal. The size and wider field of view (compared to more conventional aspect ratios), paired with the 120Hz refresh rate and a 240Hz touch sample rate make high-intensity gaming (on titles like Call of Duty Mobile) a real pleasure, as well.

Sony's display expertise manifests in a whole host of other visual wizardry too, like Creator Mode – with its calibrated 10-bit colour and HDR viewing 'powered by (Sony) CineAlta', extensive manual control over attributes like white balance and more.

The one-handed mode is essential when trying to reach the top of the user interface, set within that tall aspect ratio (shrinking everything down temporarily to bring UI elements within reach) and Sony's implementation of split-screen multitasking paired with the phone's size and the display's shape is still probably the best on any smartphone.

For all the hard-earned and well-deserved praise, this unique 120Hz 'CinemaWide' 4K HDR OLED panel deserves though, there is one critical wrinkle worth mentioning: brightness.

Samsung has shown that you can get great, bright, high-resolution OLED panels on phones, but despite all the boundary-pushing the Xperia 1 III's screen manages to do, it can be hard to see in bright surroundings and often needs to be brightened up above the automatic brightness level that the phone typically lands on, in order to deliver impactful viewing.

AUDIO

Like the display, the audio experience on the 1 III is defined by a host of ingenious technologies, the combination of which you won't find on any other smartphone. Just as 120Hz viewing is now part of the experience on this year's top Xperia, so too is speaker-based 360 Reality Audio.

Sony's spatial audio tech works best with approved headphones via supported audio services (like Tidal, Deezer and Amazon Music HD), but even without the cutting-edge standard support, the Xperia 1 III still delivers impressive sound quality through both its front-firing stereo speakers and with wired (by way of the 3.5mm headphone port) or wireless headphones.

Either way, you benefit from high-resolution audio upscaling (branded 'DSEE Ultimate') and Dolby Atmos, too.

The most divisive aspect of the 1 III's audio features isn't something you'll

hear but rather something you feel, with Dynamic Vibration automatically adding force feedback to your gaming sessions or handheld movie screenings. Luckily you can vary the intensity of the vibrations from a slider that sits alongside the standard on-screen volume level, as likely not everyone will appreciate the feature or want it running alongside every piece of media being played.

SOFTWARE

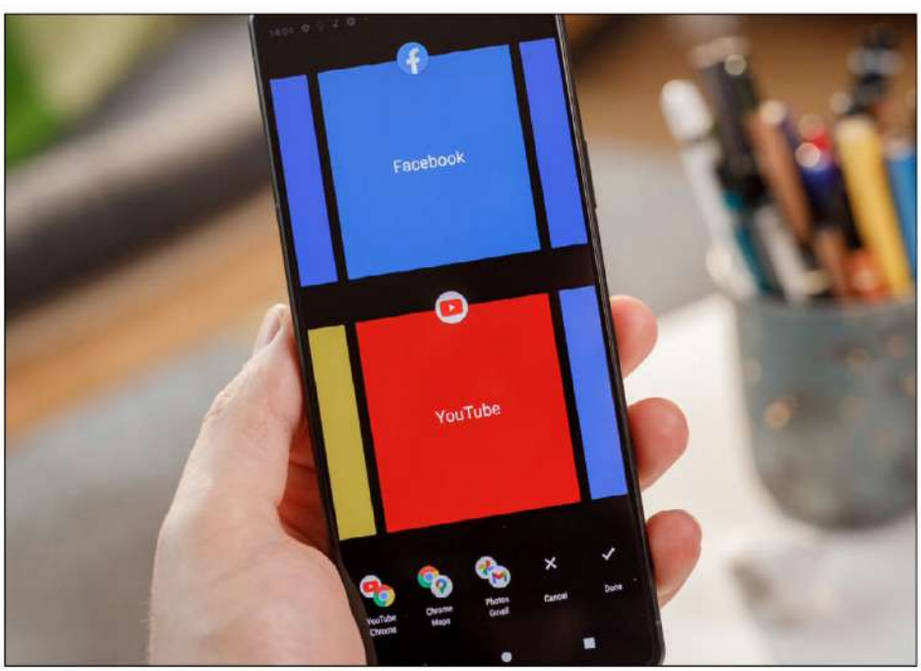
Sony has long worked to preserve a clean and easy-to-navigate Android experience while adding meaningful features that don't undermine its overall cleanliness; something that remains true with the user experience on the Mk III.

Running Android 11 out the box, there was initial concern that this characteristically premium flagship wouldn't be receiving much in the way of long-term software support from Sony, typically a given where high-end Android phones are concerned.

Sony was quick to clarify that this isn't the case and that users can expect at least two years of OS updates. This, however, feels like the bare minimum that should accompany a flagship Android device in 2021.

Standout software inclusions that you won't find elsewhere include Side Sense – the system-wide shortcuts menu that can be summoned with a double-tap against the edge of the phone's screen. The ability to, not only access pinned apps, but split-screen app pairings is a particular highlight here.

The other big upgrade comes with Game Enhancer. As well as serving something of a secondary launcher for all the games installed on your Xperia and allowing for control over the likes of device performance, colour and settings, and notifications behaviour on a game



The phone runs Android 11 out of the box.

by game basis, one of the smartest new additions is R.T. recording.

Similar to Nvidia's ShadowPlay on PC, R.T. recording (short for 'Rewind Time') lets you capture the last 30 seconds of gameplay from before you tapped the record button. It's great if you're a keen mobile gamer, wanting to share a clutch kill in PUBG Mobile or an ingenious betrayal in Among Us and speaks to Sony's perception of the 1 III as a serious mobile gaming device.

The Settings menu.

There are limitations to resolution and frame rate with R.T. capture (720p at 60fps), but if you don't need the flexibility of retroactive recording and are simply happy to capture gameplay from the moment you press the 'go' button, you can actually log footage at up to 1080p at 60fps or 720p at 120fps.

PERFORMANCE

While a phone sporting Qualcomm's hotly-anticipated Snapdragon 888+ chipset is yet to hit the market, it's sort of disheartening to think that the days of the standard 888 inside most of 2021's current flagship Android phones are already numbered.

It's particularly frustrating in the case of the Xperia 1 III, as Sony first showed the phone off near the start of 2021, when the 888 was still comparatively fresh-faced and now we're staring down the barrel of September, with the phone having only just made it to market.

For whatever the slight performance upgrade the 888+ may bring to the table, however, the Xperia 1 III does at least look to be among the best examples of a standard Snapdragon 888-powered phone out there, based on my time with it.

Geekbench 5 (multi-core)

Sony Xperia 1 III: 3,658
Sony Xperia 1 II: 3,369
Xiaomi Mi 11 Ultra: 3,499

Samsung Galaxy S21 (Exynos): 3,511
Apple iPhone 12 Pro Max: 4,241
Oppo Find X3 Pro: 3,360

GFX Manhattan 3.1

Sony Xperia 1 III: 60fps
Sony Xperia 1 II: 59fps
Xiaomi Mi 11 Ultra: 53fps
Samsung Galaxy S21 (Exynos): 50fps
Apple iPhone 12 Pro Max: 59fps (metal)
Oppo Find X3 Pro: 40fps

Battery life

Sony Xperia 1 III: 7 hours, 44 minutes
Sony Xperia 1 II: 11 hours, 57 minutes
Xiaomi Mi 11 Ultra: 9 hours, 51 minutes
Oppo Find X3 Pro: 10 hours, 20 minutes

Fast charge (30 minutes)

Sony Xperia 1 III: 52%
Sony Xperia 1 II: 46%
Xiaomi Mi 11 Ultra: 88%
Samsung Galaxy S21 (Exynos): 56%
Apple iPhone 12 Pro Max: 56%
Oppo Find X3 Pro: 96%

Like the rest of the crop, it's an absolute powerhouse in real-world use, taking high-intensity gaming and fast-paced multitasking in its stride, but in artificial testing, it's also one of the highest-scoring flagships we've seen – particularly in graphical testing. This is partly down to the jump from 8GB of RAM to a whopping 12GB compared to last year's Mk II (which is actually still an exceptional performer in its own right).

The only minor concern in this department is the phone's tendency to heat up under load (i.e. long gaming sessions or heavy camera use) and when fast-charging. This used to be a problem on older Xperias that Sony appeared to have got under control, but the issue seems to once again be rearing its head in the Mk III.

Like the phone's memory, the phone's battery has also been upscaled, compared to last year's Xperia 1, clocking in at 4500mAh rather than 4000mAh. However, even with the bump up in cell size, the 1 III still lags behind its rivals; realistically requiring nightly charging.

Note: As with the benchmarks above, all testing was performed with 120Hz viewing enabled.

One silver lining is that, unlike equally high-priced top-tier flagships from Samsung and Apple, Sony does include a fast charger in-box with the Xperia 1 III, which at 30 watts refills the phone's battery to over 50 per cent in 30 minutes and 80 per cent within an hour.

PHOTOGRAPHY

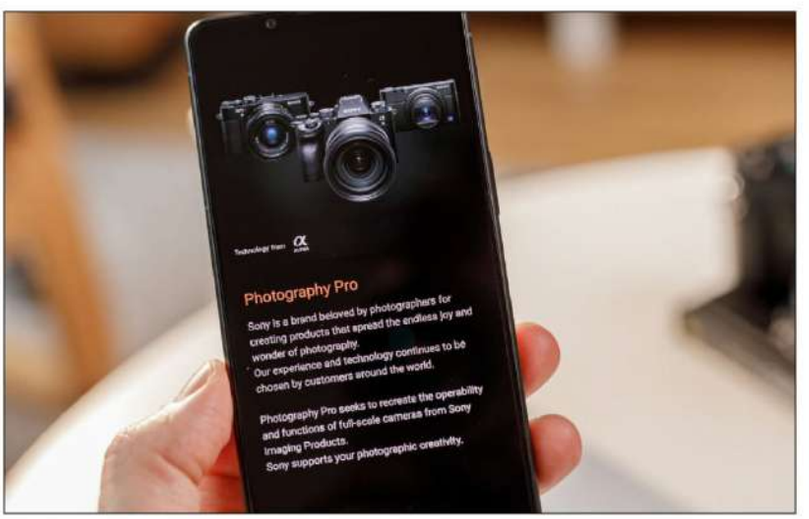
Unlike the Samsung Galaxy S21 Ultra – which features two separate telephoto cameras to offer up lossless optically-

The three main sensors that make up the rear camera set-up on the Mk III can capture shots across four focal lengths, without any form of digital trickery or compression

magnified images at two discreet focal lengths – the 1 III gives us the first example of a variable telephoto set-up on a smartphone (ruling out the likes of the Samsung Galaxy K Zoom, S4 Zoom and W880 from yesteryear, which were a little different).

This means the three main sensors that make up the rear camera set-up on the Mk III can capture shots across four focal lengths, without any form of digital trickery or compression (the telephoto sensor can capture images at both 2.9x and 4.4x magnification). It's a boundary-pushing feature that again serves as a reminder of Sony's technical know-how and proves that it can still innovate in this crowded space.

As a result, in terms of versatility at least, the 1 III rivals the likes of the S21 Ultra, while Sony practically stands alone in terms of the depth and quality of the manual shooting controls across both stills and video capture. The 1 III also possesses some unbelievable autofocus abilities too, which can track with rock-solid reliability; making this a great option for those who often snap fast-moving or


Photography Pro
Sony is a brand beloved by photographers for creating products that spread the endless joy and wonder of photography.
Our experience and technology continues to be chosen by customers around the world.
Photography Pro seeks to recreate the operability and functions of full-scale cameras from Sony Imaging Products.
Sony supports your photographic creativity.

Confusingly, Photography Pro has a mode called 'Basic' that includes video recording.

Our first series of test shots were taken using the ultra-wide lens…

…the 4.4x zoom…

…and finally the 12.5x zoom.

Here's another example of an ultra-wide shot.

Night Mode doesn't compare against its most like-minded rivals.

hard-to-capture subjects like athletes, vehicles, pets and/or children.

That unparalleled manual control does come at the cost of a far steeper learning curve, it's worth mentioning; split across two apps: Photography Pro (which confusingly features a mode called 'Basic' that includes video recording) and Cinema Pro (a more unfettered video capture experience).

The main 12Mp sensor is a great all-rounder and there's a pleasing consistency when shooting across the ultra-wide and telephoto snappers too. However, any disparities in quality, dynamic range and colour accuracy are exponentially amplified as you move from the main through to the telephoto under more challenging shooting conditions.

A lack of easy-to-use features like Night Mode means low light shooting just doesn't compare against its most like-minded rivals.

Considering how much of a focus the camera experience is on the Xperia 1 III, as before, the 8Mp selfie snapper feels like an afterthought – a tiny sensor, tucked away in the phone's bezel that perhaps offers up better colour reproduction than its predecessor on the Mk II but otherwise lacks the ability to impress in the same way the phone's rear snappers so easily do.

If you're into the more technical and manual shooting experience that the 1 III facilitates (and sort of demands of the user in order to get the most out of it) you might also like the fact that the phone borrows the UVC (USB video class) support from the Xperia Pro, letting you turn the phone into a high-quality external display for a compatible camera.

VERDICT

If the Xperia line proves anything, it's that Sony enjoys walking its own path; something that's perfectly reflected in the sheer amount of world firsts that the Xperia 1 III brings to the table.

Existing Sony fans will have no trouble finding value in the 1 III's unique feature set (unless they own last year's 1 II, as this feels like a more incremental upgrade in that regard). But for everyone else, it's a matter of weighing up whether those USPs trump the small missteps Sony has made with some of this phone's fundamentals.

Not only do rivals like Apple's and Samsung's top-tier alternatives come with better selfie cameras, brighter displays and longer-lasting batteries, but they offer greater peace of mind. The promise of long-term software support and tighter integration with their respective product ecosystems is something Sony knows it can't compete on and so doesn't try to with the 1 III.

Alex Walker-Todd

SPECIFICATIONS

- 6.5in (3,840x1,644; 643ppi) OLED, 120Hz, HDR BT.2020 display
- Android 11
- Qualcomm SM8350 Snapdragon 750G 5G (8nm) processor
- Octa-core (1x 2.84 GHz Kryo 680, 3x 2.42GHz Kryo 680, 4 x1.8GHz Kryo 68) CPU
- Adreno 660 GPU
- 12GB RAM
- 256GB/512GB storage
- Four rear-facing cameras: 12Mp, f/1.7, 24mm (wide), 1/1.7in, 1.8µm, Dual Pixel PDAF, OIS; 12Mp, f/2.3, 70mm (telephoto), f/2.8, 105mm (telephoto), 1/2.9in, Dual Pixel PDAF, 3x/4.4x optical zoom, OIS; 12Mp, f/2.2, 124-degree, 16mm (ultra-wide), 1/2.6in, Dual Pixel PDAF; 0.3Mp, TOF

3D, (depth)
- Selfie camera: 8Mp, f/2.0, 24mm (wide), 1/4in, 1.12µm
- Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct, DLNA, hotspot
- Bluetooth 5.2, A2DP, LE, aptX HD
- GPS with dual-band A-GPS, GLONASS, BDS, GALILEO, QZSS
- NFC
- USB Type-C 3.1; USB On-The-Go, video output
- Fingerprint scanner (side-mounted)
- Non-removable 4,500mAh lithium-polymer battery
- Fast charging 30 watts
- 165x71x8.2mm
- 186g

Asus ZenFone 8

Price: £599 from fave.co/3kjYgki ★★★★½

The Asus ZenFone 8 was released alongside the ZenFone 8 Flip (see Android Advisor 88) and went on sale globally just a few months ago. This handset boasts flagship features, but is a fraction of the price of phones from leading manufacturers such as Samsung and Apple – and it's smaller too.

But does the lower cost mean that there's some big compromises? I've spent some time with the ZenFone 8 to see if this is a phone worth investing in.

DESIGN

As Goldilocks would say, this phone is not too big, nor too small – it's just right. It can be used one-handed easily and will slip inside most pockets comfortably, but the screen is still large enough to enjoy videos on and you can play games without feeling like you're short on space.

Measuring 148x68.5x8.9mm and weighing 169g, this is a handset on the chunkier side. However, it's a robust

design that feels secure. The addition of a tough matching case will be a welcome relief to the fellow clumsy folks out there. It also comes with an IP68 rating, meaning that it's protected against some splashes and dust.

If you're looking to choose between the ZenFone 8 and 8 Flip, then one deal breaker could be the inclusion of a headphone jack on this phone – a feature that many flagships forgo these days.

The ZenFone 8 comes in two colour options: black and silver. I tested the black version, which comes with a matt sheen finish on the rear. It isn't as flashy as other phones in this price range, but it's refined and sophisticated and feels high-end to the touch.

The power button and volume controls sit on the right-hand side of the device, whilst the fingerprint sensor is under the display. This worked reasonably well – I only had issues after just washing my hands, but overall it's better than what I've seen on other phones such as the Oppo Find X2. There's also facial recognition software, should you prefer that.

On the bottom, you get a USB-C charging port and a SIM slot. Connectivity wise, there's Bluetooth 5.2, integrated Wi-Fi 6/6E and NFC.

The Dirac speakers produce quite punchy sound for a smaller phone. I can happily listen to podcasts or music in the background and can clearly hear all details. There's also support for aptX Bluetooth devices.

DISPLAY

One of the biggest draws of the ZenFone 8 is its screen, which is a 5.9in Full HD+ AMOLED display. The phone has a body ratio of 84.2 per cent, with a small punch hole selfie camera on the top left. The bezels are slightly on the thicker side, but don't take away too much from the clear screen.

The standout feature on this display is the 120Hz refresh rate with 1ms

One of the biggest draws of the ZenFone 8 is its screen, which is a 5.9in Full HD+ AMOLED display.

touch response and a 240Hz touch sampling rate. The screen is bright, clear, colourful and excellent for watching videos or playing games on. It's also bright enough to use in direct sunlight without too many issues.

You don't have to use the 120Hz all the time, with the option to select one of four system performance modes: high performance, dynamic, durable and ultra durable.

Having the phone on higher refresh rates drains the battery much more quickly. If battery conservation is important to you, then I recommend dropping down the quality for day-to-day use and saving that 120Hz for when you really want it.

PERFORMANCE

The specs of this phone are just as impressive as that 120Hz display, as it is packed with Qualcomm's Snapdragon 888 5G chip. The handset I tested is paired with 8GB RAM and 256GB storage, though there are different RAM and storage versions available both in the UK and internationally, with up to 16GB RAM available.

These specs don't just impress on paper – it's reflected in our benchmarking tests, with the phone achieving figures close to the iPhone 12 Pro and the Samsung Galaxy S21.

Geekbench 5 (multi-core)

Asus ZenFone 8: 3,640
Asus ZenFone 8 Flip: 3,511
Samsung Galaxy S21: 3,589
Apple iPhone 12 Pro: 3,797
OnePlus 9: 3,492
Google Pixel 5: 1,625

GFX Manhattan 3.1

Asus ZenFone 8: 96fps
Asus ZenFone 8 Flip: 88fps
Samsung Galaxy S21: 98fps
Apple iPhone 12 Pro: 60fps (metal)
OnePlus 9: 60fps
Google Pixel 5: 20fps

Battery life

Asus ZenFone 8: 5 hours, 25 minutes
Asus ZenFone 8 Flip: 9 hours, 57 minutes
OnePlus 9: 9 hours, 6 minutes
Google Pixel 5: 12 hours, 34 minutes

Fast charge (30 minutes)

Asus ZenFone 8: 64%
Asus ZenFone 8 Flip: 44%
OnePlus 9: 95%
Google Pixel 5: 45%

These figures also make it a great phone to use day-to-day. I can easily multitask without any lag (such as watching a floating Twitch window whilst browsing Twitter). The decent RAM and storage options give plenty enough

room for apps and games – especially considering Google Photos stores images and videos in the cloud.

Sadly, unlike on the 8 Flip, there is no microSD card slot if you want to extend your room any further.

PHOTOGRAPHY

There are three main camera lenses on the ZenFone 8. First, there's the main 64Mp camera with Sony's IMX686 sensor, f/1.8 aperture and optical image stabilization (OIS). The images this camera produces are clear and detailed.

The dynamic sensor in this camera optimizes the lighting for the best shot – automatically dropping to night mode if you're taking a shot in the dark. As with most smartphones, the most impressive shots are outside in daylight.

It can't quite compete with the likes of the Samsung S21 Ultra or iPhone 12 Pro Max, but at several hundreds pounds less, it's hard to complain.

The 12Mp ultra-wide angle lens comes with Sony's IMX363 sensor and Dual PD autofocus. There is a drop in quality between this and the main sensor when it comes to textures and details. However, colours are mostly the same – wider lens on cheaper phones sometimes look less bright.

On the front of the phone, you get a 12Mp camera. This is the first

We'll start of with an image taken with the rear camera.

As you can see there's a drop in quality between the ultra-wide lens…

…and the main camera.

Here we have an example of a low-light shot without night mode enabled…

…and with it switched on.

We'll finish off with an image taken using the selfie lens.

handset on the market to feature Sony's IMX663 sensor, and you also get Dual PD autofocus. The quality of these shots varies depending on your lighting conditions – with the best shots coming either in natural light, or with light from behind the camera.

The portrait mode once again is really consistent. Even little details such as stray hairs aren't lost in the blurred background – the camera is able to tell the differences and create a contrast that feels more natural.

There isn't a dedicated telephoto lens on this phone, so it's not the best if you like to make use of the zoom feature.

For videophiles, the Asus ZenFone 8 can record up to 8K at 30fps with OIS. There's also triple microphones on the phone, which means that if you go into the pro editing mode you can choose what audio to focus on should you wish. Videos are clear, detailed and stable, and the audio is just as good.

BATTERY LIFE

The 4,000mAh battery is one of the worst things about the ZenFone 8.

During the internal battery test, it only managed to survive five hours and 25 minutes. Of course, this was with that 120Hz max refresh rate turned on. You

can extend the battery life by switching the performance mode – durable mode is the best option if you want all-day use.

This may be annoying to those who want to use dynamic mode to make full use of that 120Hz refresh rate without having to manually change it.

The ZenFone 8 comes with Android 11 running on Asus's ZenUI.

Fortunately, charging is relatively quick. The phone went from flat to 64 per cent in 30 minutes using the 30-watt HyperCharger, and overall takes just under an hour to get to full. Sadly, it cannot be charged wirelessly.

I also noticed that when charging, the handset gets quite hot. It doesn't seem to affect performance but is something to keep in mind.

SOFTWARE

The ZenFone 8 comes with Android 11 running on Asus's ZenUI. Apps are laid out neatly and cleanly, with minimal pre-installed app clutter. In all honesty, it's hard to tell that this is a skin of pure Android – the UI is extremely close and if anything, the differences only enhance what the software can do.

Firstly, there's the one-handed mode. You can activate this easily from the quick menu at the top of the phone, and once enabled you simple swipe downward from the second half of the phone screen. This allows all the apps to sit lower on the display for easier access.

You can customize the gesture sensitivity and screen size for both of these things. Whilst a phone of this size doesn't necessarily need this, it's still useful for accessibility.

The system performance manager also allows you to customize the thermal limit, CPU performance, GPU performance, RAM performance and more to suit advanced preferences rather than the standard four settings that come with the phone. This will be especially useful for any keen mobile gamers.

VERDICT

The Asus ZenFone 8 offers a crisp display, flagship performance and a great camera set-up, all for an extremely competitive price – managing to outpace its sister phone, the ZenFone 8 Flip. The smaller design is a solid option for those who don't want to settle for a big phone.

The battery life isn't great, but providing you're happy to use it in durable mode and can savour that 120Hz display, you can make it last through the day. Overall, this is a contender in the smartphone market for 2021. Hannah Cowton

SPECIFICATIONS

- 5.9in (2,400x1,080; 446ppi) Super AMOLED, 120Hz, HDR10+ display
- Android 11 , ZenUI 8
- Qualcomm SM8350 Snapdragon 750G 5G (8nm) processor
- Octa-core (1x 2.84GHz Kryo 680, 3x 2.42GHz Kryo 680, 4x 1.8GHz Kryo 680) CPU
- Adreno 660 GPU
- 6GB/8GB/12GB/16GB RAM
- 128GB/256GB storage
- Two rear-facing cameras: 64Mp, f/1.8, 26mm (wide), 1/1.73in, 0.8µm, PDAF, OIS; 12Mp, f/2.2, 112-degree, 14mm (ultra-wide), 1/2.55in, 1.4µm, dual pixel PDAF
- Selfie camera: 12Mp, f/2.5, 28mm (standard), 1/2.93in, 1.22µm, dual pixel PDAF
- Wi-Fi 802.11 a/b/g/n/ac/6e, dual-band, Wi-Fi Direct, hotspot
- Bluetooth 5.2, A2DP, LE, aptX HD, aptX Adaptive
- GPS with dual-band A-GPS, GLONASS, GALILEO, BDS, QZSS, NavIC
- NFC
- USB Type-C 2.0, USB On-The-Go
- Fingerprint scanner (under display, optical)
- Non-removable 4,000mAh lithium-polymer battery
- Fast charging 30 watts
- 148x68.5x8.9mm
- 169g

OnePlus Nord 2

Price: £399 from fave.co/387fxaI

The OnePlus Nord 2 has a lot to live up to. Last year's debut Nord was my favourite mid-range phone of 2020, a near-flawless blend of design and performance that genuinely made it difficult to justify spending more – even on OnePlus's own flagships.

With a more competitive mid-range market this year – driven by mounting pressure from Xiaomi and Realme – OnePlus would have to pull out all the stops to impress as much this time around.

The Nord 2 doesn't quite pull it off, which is only to say: the Nord 2 is good, and maybe even great, but not quite the all-singing, all-dancing spectacular it felt like the first time round.

DESIGN

While the first OnePlus Nord took some inspiration from the flagship that preceded it, the Nord 2 more directly apes the entire design of the OnePlus 9.

That's most obvious in the phone's camera module, which moves the

flash and drops the Hasselblad logo, but otherwise appears identical to the camera set-up on that premium phone.

You'd think that as a cheaper device the Nord 2 might thus look like a bad knock-off of its big brother, but in fact this phone arguably has the edge.

For one thing, it's slimmer. At 8.3mm it's not quite thin, but at least it doesn't feel quite so thick. I'd also take the Blue Haze finish here over most of the 9's colour options, though the Gray Sierra alternative is admittedly pretty drab. If you're in India you'll also have the option of a vegan leather green model that sadly won't make it to the rest of the world.

Even build quality is the same, with Gorilla Glass 5 on both the display and the phone's rear, and a plastic frame to hold it all together. Fittingly for the price there's no water-resistance IP rating on the Nord 2 though, so you'll have to be a little more careful in the bath.

More unusually, OnePlus has managed to fit stereo speakers into the new Nord – a distinct rarity at this price point. I still feel that smartphone sound quality only really matters to a minority – how often are you blasting music through your phone speakers? – but at least for those who care, this should impress.

The Nord 2 isn't quite the best looking mid-range phone around – the Xiaomi Mi 11 Lite 5G is slimmer, while the yellow leather Realme GT is certainly more striking – but it's an understated option that looks good, and packs niceties like a Gorilla Glass back and stereo speakers.

DISPLAY

The display was one of the strongest elements of the first Nord, so it's perhaps understandable that OnePlus has chosen to leave it almost untouched second time around.

This is also a fast-moving part of the phone industry right now though, which has the knock-on effect that the screen here doesn't feel quite as

The bright display offers decent colour reproduction and good visibility in most conditions.

competitive 12 months on. What you're getting is a flat AMOLED panel that's 6.43in across the diagonal. It's a decent size – large enough to feel spacious while small enough to keep the phone itself fairly compact – and it's bright, with decent colour reproduction and good visibility in most conditions.

When using the phone the experience is similarly smooth.

The 90Hz refresh rate helps make the phone feel smooth and responsive, and has some frame rate advantages for gaming too. With 120Hz displays now available at this price point and lower, it's a slight shame not to see that faster standard supported here – but in reality the jump to 120Hz is much less noticeable, so it's an understandable compromise.

There's a punch-hole selfie camera interrupting the top-left corner of the display, but not the dual cameras from the first-gen phone. You may miss the extra lens, but it does at least return a little extra screen real estate and make the notch a bit less obnoxious.

PERFORMANCE

Perhaps the most striking thing about the Nord 2 – for phone nerds like me, at least – is that it's the company's first phone not to use a Qualcomm Snapdragon chipset.

Instead, the company has worked with Qualcomm rival MediaTek on a custom version of its Dimensity 1200 chip with a few enhanced AI features. These are mostly fairly unexciting in and of themselves – scene recognition for the camera, and some resolution and colour enhancements for video – but the real draw here is that the Dimensity 1200 is technically a flagship chipset, despite the Nord 2's mid-range price.

Geekbench 5 (multi-core)

OnePlus Nord 2: 2,694
OnePlus 9: 3,492
OnePlus Nord: 1,963
Poco F3: 3,184
Realme GT: 3,202
Google Pixel 4a: 1,640

GFX Manhattan 3.1

OnePlus Nord 2: 57fps
OnePlus 9: 60fps
OnePlus Nord: 34fps
Poco F3: 61fps
Realme GT: 60fps
Google Pixel 4a: 27fps

Battery life

OnePlus Nord 2: 11 hours, 17 minutes
OnePlus 9: 9 hours, 6 minutes
OnePlus Nord: 11 hours, 26 minutes
Poco F3: 14 hours, 24 minutes
Realme GT: 10 hours, 15 minutes

Fast charge (30 minutes)

OnePlus Nord 2: 100%
OnePlus 9: 95%
OnePlus Nord: 68%
Poco F3: 72%
Realme GT: 97%
Google Pixel 4a: 51%

In terms of benchmark performance, this still lags well behind the likes of the Qualcomm Snapdragon 888 you'll find in the OnePlus 9 and 9 Pro. Compared to the mid-range Snapdragon 765G in last year's Nord and we saw a 37% performance jump in Geekbench 5, and doubled frame rates in some of the more demanding GFXBench tests.

When using the phone the experience is similarly smooth. Across a week or two using the Nord 2 I've not noticed any meaningful slowdown, stuttering, or freezes, and from a pure performance standpoint there's really nothing to complain about here.

The Nord 2 is available in two main configurations: 8GB RAM and 128GB storage, or 12GB RAM and 256GB storage (the version I've been testing). India also gets a cheaper starting model, which offers 128GB storage but drops to just 6GB of RAM, so will suffer a bit more when it comes to multi-tasking and some gaming performance.

The Dimensity 1200-AI includes a 5G modem, so the Nord 2 supports the latest connectivity standard there – along with Bluetooth 5.2 and Wi-Fi 6.

The single selfie camera offers a face unlock option, but the in-display fingerprint scanner is probably the more secure and reliable option.

BATTERY LIFE

OnePlus has historically prided itself on the speed of its charging – but even so, it's welcome to see the company use its fastest wired charging tech in this mid-range device.

The Nord 2 supports 65-watt wired charging, which in my test topped up 59 per cent of the battery in just 15 minutes – and was already at 100 per cent when I checked back at the half-hour mark.

There's no wireless charging, but that's reasonable given the price.

The actual battery is 4500mAh – an upgrade from last year's – which is comfortably enough for a day's use. I've typically been charging the phone every other day, but that is with relatively low use while I work from home. I'd be surprised if anyone found the Nord 2 couldn't last them the day though.

PHOTOGRAPHY

At a glance, you'd be forgiven for thinking that OnePlus had slightly downgraded the camera set-up for the Nord 2 – not only has the dual selfie set-up become a single shooter, but the rear quad camera is now a mere triple, and all for only a 2Mp bump on the main lens. Things aren't quite so simple of course, and it's perhaps better to look at this as a refocusing: trimming out extraneous lenses to focus more on the ones that matter most.

Let's take that main lens then. The 50Mp IMX766 sensor used here is the same one the company used for the ultra-wide camera in the 9 series flagships, and is also found as both the main and ultra-wide in the excellent Oppo Find X3 Pro – one of the best camera phones around.

The large sensor here allows the camera to capture more light, and combined with optical image stabilization (OIS) that should make it a dab hand at lowlight photos in particular.

In general, this camera does a great job. I wouldn't go quite so far as to say it's up there with the Find X3 Pro, despite the shared sensor – better post-processing and a faster chipset help that phone keep the edge – but the results here are impressive.

In especially bright light colours occasionally pop a little too much and it veers into over-saturation, and I'd like to see a stronger HDR effect – the highlights and dark spots can both be a little extreme. But for the most part photos with the main camera are bright, detailed, and attractive – with mostly natural colours outside of those few edge cases.

Low-light performance remains slightly disappointing, and I'll admit I'd hoped for more from the large sensor and OIS included here – hopefully this is something that the company can continue to tweak with OTA updates. Even with OIS I found a noticeable drop in detail in night mode shots, and some uneven colour re-production. Shots certainly aren't terrible, but they're unlikely to blow you away.

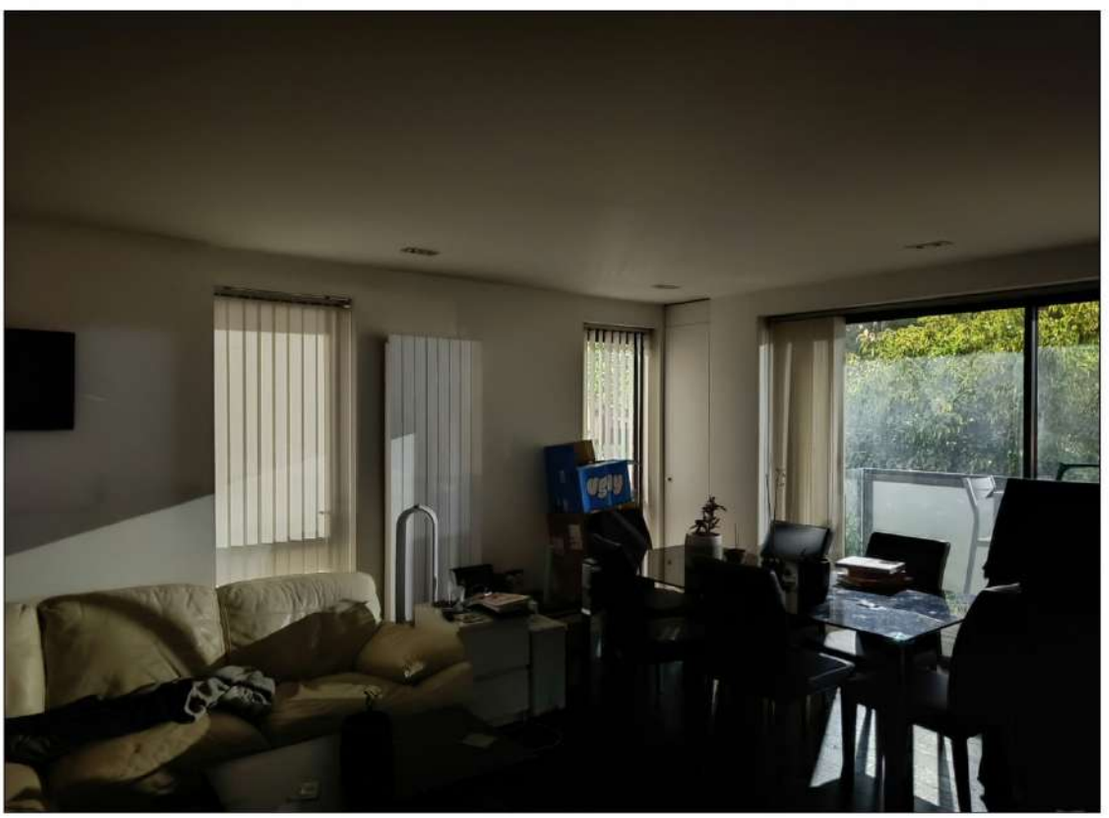
The same can be said for the ultra-wide lens, which at 8Mp and f/2.3 is a serious drop from the main shooter. It'll

Our first test shots were taken using the main camera…

…and the ultra-wide lens.

Next up is a standard low-light shot…

…and a low-light shot with night mode enabled.



Finally, we have a selfie…

…and a portrait photo.

do the job if you want to capture an impressive landscape or a big group shot, but in both colour and detail it doesn't hold a candle to the main camera.

The final rear camera is a 2Mp mono lens used to add extra colour information to black-and-white photos. We've seen this before on OnePlus phones, and as ever it's a forgettable extra that only appears to be included to make up the numbers.

Two Android version updates promised.

On the front you'll find a 32Mp, f/2.5 selfie lens. The high resolution helps this capture impressively detailed selfies, but the aperture does let it down somewhat. The result is shots that, from my experience, turned out slightly dull and washed out - the opposite of the main rear lens' tendency to skew to over-saturation.

SOFTWARE

The Nord 2 is a surprisingly significant phone for OnePlus when it comes to software, as it's the first to run on Oppo's ColorOS.

The two companies have slowly been merging in recent years in order to share resources, and in July announced that the next step would be to merge the code bases for the two operating systems. The Nord 2 is the first to boast this new software officially, and officially runs "OxygenOS based on Android 11/ ColorOS 11.3".

Concerned OnePlus fans need not worry, as the practical changes are minimal. In fact, you'd be hard-pressed to spot the difference between this and previous versions of OxygenOS, with almost every change happening behind the scenes.

The software still looks like Oxygen always has, and boasts the same solid array of customization options throughout the OS. All your favourite OnePlus apps and software tweaks are here too, from the always-on display to the notification-silencing Zen Mode.

So if nothing is changed, why did OnePlus and Oppo merge their software

anyway? At least in part because merging should help OnePlus produce security patches and other updates more efficiently with the help of Oppo's development team.

With that in mind, the Nord 2 also falls within the company's new update guarantee of two Android version updates (Android 12 this year, and Android 13 next) and a total of three years of security patches. That's not the most comprehensive update promise around (OnePlus's own flagships get an extra year of support), but it is one of the better ones.

OxygenOS has always been one of, if not the greatest weapon in the OnePlus arsenal. Only time will tell if merging with ColorOS will begin to negate that, but for now this software is as potent as ever.

VERDICT

It's perhaps inevitable that the Nord 2 isn't quite as exciting as the first Nord for those of us who follow the industry closely. It's not as revelatory or novel, and with so many OnePlus models around now – this is the company's sixth phone this year – it's hard to find any release as thrilling.

Stiffer competition in the mid-range market doesn't help, but the Nord 2 still makes a strong case for itself. The Dimensity 1200-AI chipset is one of the most powerful you'll find for the price, the understated design remains appealing, and the main camera will outclass most rivals.

And as ever, while Xiaomi and Realme may deliver better value on paper, the OxygenOS software experience still gives OnePlus an undeniable edge, and it isn't going anywhere just yet. Dominic Preston

SPECIFICATIONS

- 6.43in (2,400x1,080; 409ppi) Fluid AMOLED, 90Hz, HDR10+ display
- Android 11, OxygenOS 11.3
- MediaTek MT6893 Dimensity 1200 5G (6nm) processor
- Octa-core (1x 3GHz Cortex-A78, 3x 2.6GHz Cortex-A78, 4x 2GHz Cortex-A55) CPU
- Mali-G77 MC9 GPU
- 8GB/12GB RAM
- 128GB/256GB storage
- Three rear-facing cameras: 50Mp, f/1.9, 24mm (wide), 1/1.56in, 1.0µm, PDAF, OIS; 8Mp, f/2.3, 119-degree (ultra-wide); 2Mp, f/2.4, (monochrome)
- Selfie camera: 32Mp, f/2.5, (wide), 1/2.8in, 0.8µm
- Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct, hotspot
- Bluetooth 5.2, A2DP, LE, aptX HD
- GPS with dual-band A-GPS, GLONASS, GALILEO, BDS, SBAS, NavIC

- NFC
- USB Type-C 2.0, USB On-The-Go
- Fingerprint scanner (under display, optical)
- Non-removable 4,500mAh lithium-polymer battery
- Fast charging 65 watts
- 158.9x73.2x8.3mm
- 189g

Oppo A54 5G

Price: £219 from fave.co/3sG1wds ★★★★☆

Oppo's 5G upgrade to the A54 also brings with it a sharper, more vibrant display and better cameras. While that adds a slightly higher price, it still remains affordable at £219. But where exactly does Oppo compromise to keep the price so low?

We tested out the handset to see how it performs day to day, and whether its humble price tag offers enough value to cut through the crowd.

DESIGN

The A54 5G may be a budget all-plastic handset, but it doesn't look cheap. The model I tested in Fluid Black has a gorgeous iridescent finish that changes from dark grey to silver depending on the angle of the light. You can pick it up in an eye-catching Fantastic Purple too.

The only downside is it's not quite fingerprint-proof. Thankfully, Oppo provides a clear case in the box, so you

can show off its vibrant splendour while keeping off smudges.

The A54 5G benefits from a thin 8.4mm profile bound by a rounded matte metallic band. This adds a touch of finesse that you wouldn't expect in a budget handset – and it's certainly unlike anything I've encountered in the budget Moto G series phones I've reviewed, which sit in a similar price bracket.

The Oppo 54 5G offers a stunning 90Hz display with the full DCI-P3 colour gamut.

At 190g, the A54 5G is comfortable to hold with a well-placed, side-mounted fingerprint reader, which doubles as the power and wake button. The fingerprint reader isn't the most accurate, and often took me a few attempts to unlock the phone, but alternatives such as facial recognition and the good old PIN pad means it's not much of an issue.

There's a USB-C port for charging.

As for connectivity, 5G aside, the A54 5G offers a USB-C port for charging (10W charger included), Bluetooth 5.1 and a 3.5mm headphone jack. It's also dual-SIM (which was handy in helping me get free Wi-Fi on the London Underground).

DISPLAY

The Oppo 54 5G offers a stunning 90Hz display with the full DCI-P3 colour gamut (note: you also have the choice to switch to 60Hz but there's little reason to, given the handset's robust battery life – more on this later). The novelty of 90Hz may not be as thrilling as it was a couple of years ago, but it's still nice to see on a budget device.

Images and videos look sleek and vibrant, whether you're streaming YouTube, watching films on Netflix or scrolling Instagram. It's bright too,

reaching a maximum of 398 nits in our real-world tests.

The A54 5G offers an LTPS IPS LCD. In English, if you're after the clarity, contrast and colour afforded to you by AMOLED panels, you'll have to look elsewhere. The Xiaomi Redmi Note 10 Pro is one such alternative that manages to squeeze in a 120Hz AMOLED for £249, though without 5G connectivity. Oppo strikes a good balance offering 5G on a budget while maintaining a decent display experience, though.

PHOTOGRAPHY

In the fewest words: the A54 5G's cameras are 'okay'; nothing fantastic, nothing terrible. What I like most about images on the A54 5G is that colours look bright and vibrant, so long as scenes are well lit.

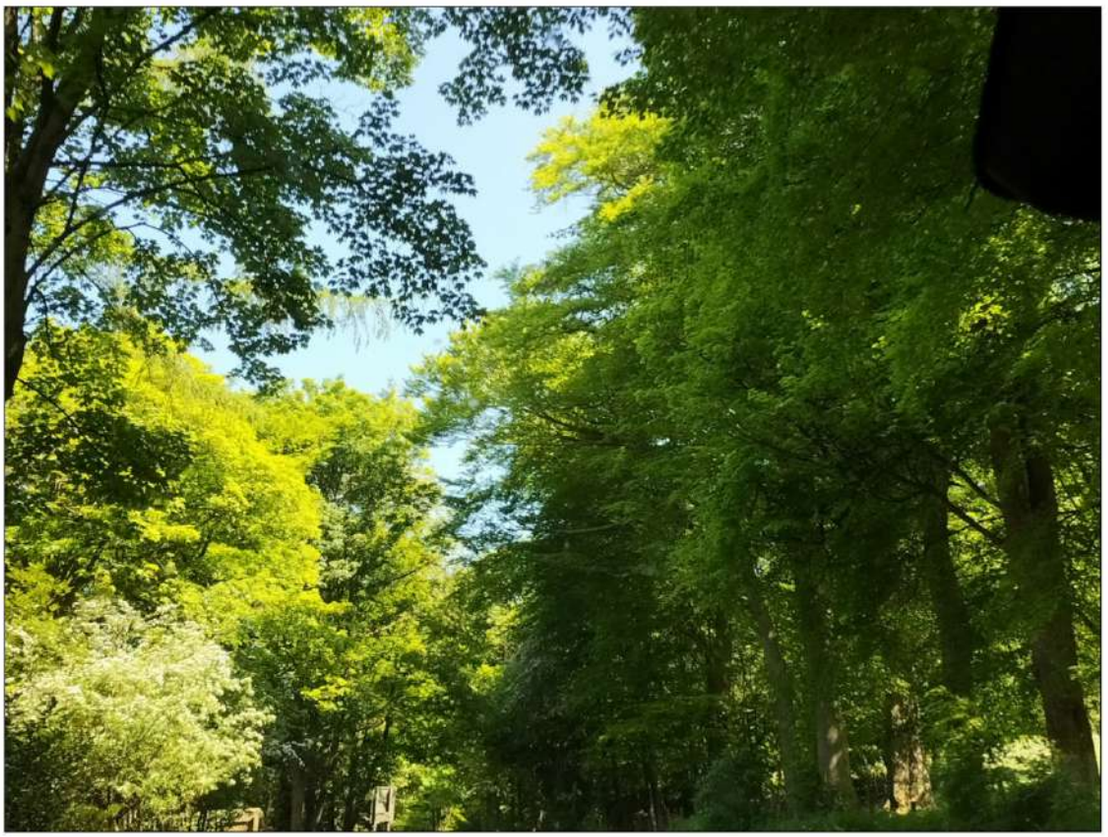
It's a different story in low light, though, where the vibrancy washes out. Images aren't as sharp and well defined as they could be either, with slight distortions and blurring, along with a lack of dynamic range that makes shots appear flat or weirdly abstracted from reality.

The lack of dynamic range becomes a bigger issue when using the 16Mp selfie camera, and more so if you're in a dimly lit location like a pub or music venue.

If that's a dealbreaker for you, you may be better off with the mid-range

Colours look bright and vibrant.

As you can see in these two example, images aren't as sharp in low light.



Here are a couple of examples of outdoor shots.

The lack of dynamic range becomes a bigger issue when using the 16Mp selfie camera, especially in dim light.

Google Pixel 4a, which remains one of best camera phones on the market, despite it's mid-range standing.

PERFORMANCE

While a humble price and decent display are welcome, how does the Oppo A54 5G perform?

Running on the entry-level Snapdragon 480 5G chip, it's not a beast in performance, particularly if you're an avid gamer, but it is a solid choice for day-to-day performance. Gamers can see the best gaming phones here.

Memory specs are restricted to 4GB RAM and 64GB storage, and the latter may not last long if you take lots of pictures. You can add a microSD card if you need more space, though.

Other handsets that share the 480 5G processor include the £299 Nokia X20, the £399 Nokia XR20 and the US-exclusive OnePlus Nord N200, which costs $239.99 (£tbc). All those choices (except the Nord N200) cost more than the £219 Oppo A54, though fared almost identically in our gaming and processing benchmarks. In fact, the Oppo A54 5G outperforms the Nokia XR20 in a few results too.

If you're comparing like for like (budget 5G phone with a Snapdragon

480 5G chip) then the A54 5G is the clear choice against Nokia alternatives. If you're open to 4G contenders, however, then you can quite easily get better value elsewhere, such as in the Poco X3 Pro – the current king of budget handsets. For £10 more than the A54 5G, the X3 Pro packs incredible, near-flagship performance (thanks to its Snapdragon 860 chip), a large 120Hz display and impressive battery life.

Geekbench 5 (multi-core)

Oppo A54 5G: 1,661
Nokia X20: 1,667
Nokia XR20: 1,642
Poco X3 Pro: 2,646
Realme 8 Pro: 1,721

GFX Manhattan 3.1

Oppo A54 5G: 26fps
Nokia X20: 26fps
Nokia XR20: 16fps
Poco X3 Pro: 62fps
Realme 8 Pro: 27fps

Fast charge (30 minutes)

Oppo A54 5G: 23%
Nokia XR20: 35%
Poco X3 Pro: 58%
Realme 8 Pro: 82%

In using the A54 5G over a couple of months, I found its performance to be consistently smooth for the most part. Apps launched and closed reasonably fast and switching from one app to another was effortless too.

You can see the limitations of the 4GB RAM if you have too many apps open, however. There were a couple of times when the drop-down message notifications from WhatsApp became unresponsive and would overlap with whatever else I had open. I needed to lock and unlock my screen again to remove it. Apart from this, the Oppo 54 5G leaves little to complain about.

SOFTWARE

The Oppo A54 5G runs on a reskinned Android 11 called ColorOS. It once detracted heavily from the near-stock Android experience you would have been likely to find on equivalent Nexus/Pixel or Motorola phones of the time but Oppo has since reined things in somewhat, for the better.

While there are certain Oppo-made apps – such as the Album or utilities such as Compass, Recorder, or Phone Manager – the only other pre-loaded apps are Google's (Gmail, Photos and YouTube, for example). You also get the benefit of Android 11's gestural navigation and three-finger screenshots – a feature I love on the Moto G series phones.

BATTERY LIFE

The battery life is one of the biggest benefits of the A54 5G. A full charge can take you through two days – of course, that depends on how rigorously you use the phone.

If you're looking for a 5G phone that doesn't cost the earth, then the A54 5G is easy to recommend.

I primarily used Facebook, Messenger, WhatsApp and YouTube, and was easily able to get through a day and a half without charging. Fast charging is restricted to 10 watts though, which isn't that fast at all, when competitors in the budget space offer anywhere from 18- to 33 watts, but you can at least expect the last fractions of power to last over an hour – even as charge dips beneath 10%.

Our Geekbench 4 battery test took 15 hours and 47 minutes to drain the A54 5G after a full charge, while 30 minutes of charging returned 23 per cent – more than enough if you're in a tight spot.

The battery saving modes on the A54 also let you squeeze more life out of those precious watts of power. You can choose to run your device as normal, but have it optimised for battery life in the background, or opt for the nuclear option, which lets you run only the most essential apps. The benefit here is that you get to choose what those apps are; so you're not restricted to just basic texting and calls.

VERDICT

The Oppo A54 5G is no doubt a good phone. You get reliable performance, a solid 90Hz Full HD+ display, strong battery life and most importantly, 5G connectivity at an affordable price.

While it's not the fastest budget phone out there, and cameras could be better, it's perfectly fine for day-to-day social media use and browsing. Gamers may want to look elsewhere though.

If you're looking for 5G on a budget, the A54 5G is easy to recommend – but given 5G service isn't prevalent everywhere, your money can go farther with a similarly priced 4G alternative.

Somrata Sarkar

SPECIFICATIONS

- 6.5in (2,400x1,080; 405ppi) LTPS IPS LCD, 90Hz display
- Android 11, ColorOS 11.1
- Qualcomm SM4350 Snapdragon 480 5G (8nm) processor
- Octa-core (2x 2GHz Kryo 460, 6x 1.8GHz Kryo 460) CPU
- Adreno 619 GPU
- 4GB RAM
- 64GB/128GB storage
- Four rear-facing cameras: 48Mp, f/1.7, 26mm (wide), 1/2.0in, 0.8µm, PDAF; 8Mp, f/2.2, 119-degree (ultra-wide), 1/4.0in, 1.12µm; 2Mp, f/2.4, (macro); 2Mp, f/2.4, (depth)
- Selfie camera: 16Mp,f/2.0, 26mm (wide)
- Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct, hotspot
- Bluetooth 5.1, A2DP, LE, aptX HD
- GPS with dual-band A-GPS, GLONASS, BDS, QZSS
- NFC
- USB Type-C 2.0, USB On-The-Go
- Fingerprint scanner (side-mounted)
- Non-removable 5,000mAh lithium-polymer battery
- 162.9x74.7x8.4mm
- 190g

Motorola Moto G30

Price: £159 from fave.co/3zrrlAV ★★★☆☆

Reviewing the Moto G30 feels very much like Groundhog Day. If you've read my review of the G9 Play (Android Advisor 82), you'll know what to expect here. But feel free to stick around for my charming personality.

The G30 launched alongside the Moto G10, marking a shift in Motorola's naming convention where higher numbers indicate higher capability. The ultra-affordable Moto G10 didn't really impress, so does the higher-specified G30 do better? Let's find out.

DESIGN

Motorola sticks to its guns when it comes to the G30's design. You get the same template as past G-series phones: a teardrop camera, the round fingerprint reader on the back, the Google Assistant button above the volume rocker, and a 3.5mm audio jack at the top.

In many ways, the G30 is a reskinned Moto G9 Play but with Android 11. (The similarities are especially apparent in performance, which I'll get into later). The only things that are markedly

different on the G30 are the attractive iridescent sheen on the back and IP52 dust and water protection (the G9 series featured 'water repellent' designs, instead). Otherwise, the phone looks identical to its predecessors.

We love the iridescent sheen on the phone's rear.

At 197g, the G30 is comfortable to hold and use, and just 3g shy of both the G10 and last year's Moto G9 Play. It's significantly lighter than the 221g G9 Power, though. If you care about dimensions the G30 measures 165.22x75.73x9.19mm, while the G9 Play measured 165.22x75.73x9.14mm – so the G30 is a fraction of a millimetre thicker, not that you'll notice.

Overall, the design is tried and tested. Clearly, Motorola sees little value in venturing outside a format that works. Playing it safe is risky business, however, when brands such as Xiaomi and OnePlus innovate with aggression in the budget space, cramming in ever more features for less.

But like other G Series phones, the G30 is a dependable 4G device, with Bluetooth 5.0 connectivity, NFC support, and Wi-Fi 802.11 a/b/g/n/ac connectivity. The phone also charges via USB-C.

PHOTOGRAPHY

Once again, there's not much of an upgrade when it comes to cameras. The G30 boasts a 64Mp main sensor – like the G9 Power – and outputs to a 16Mp

The G30 also has an 8Mp ultra-wide lens, a 2Mp macro and a 2Mp depth sensor on the back.

final resolution, with pixel binning . Shooting at the sensor's native resolution only kicks in if you go into the camera settings and select the 'Hi-Res' option. You'll also have to wait a few seconds for the image to process.

The G30 also has an 8Mp ultra-wide lens, a 2Mp macro, and 2Mp depth sensor on the back – the same as the G10. The phone can shoot video at up to 60fps, while ultra-wide and macro video captures cap at 30fps.

As for the quality, images on the G30 fare better when brightly lit. In such settings, colours appear balanced and there's a reasonable amount of detail. The G30 really struggles in low light, however. Images appear dull, lacklustre and blurriness also becomes an issue (especially if your subject is moving). Cameras have been a recurring pain point for all the Motorola G phones I've reviewed. At this point, it feels as though the camera isn't really a priority for the brand.

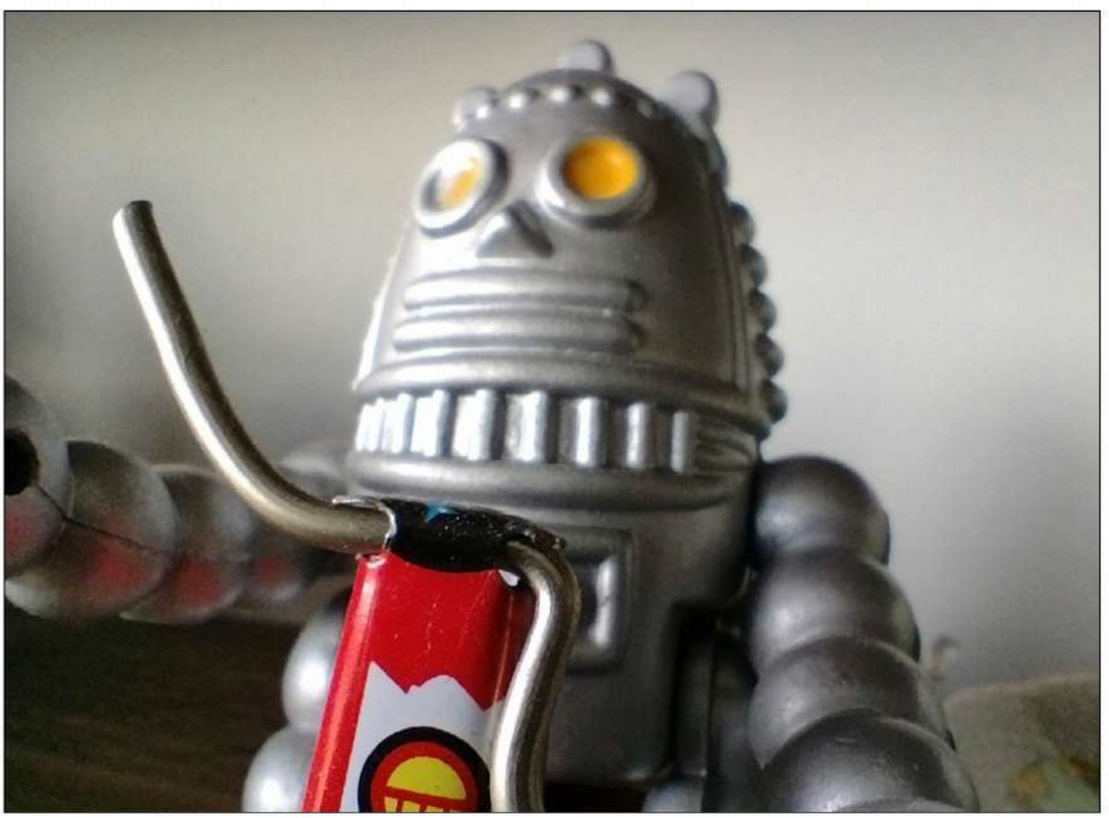
But to give credit where it's due, macro shots on the G30 have improved. It was much easier to get the camera to focus on the subject too. While there is still some loss in detail and they're not the most vivid, I was pleased with the final shots (for a Moto G phone, at least).

The selfie-cam relies on a 13Mp sensor, which is stronger than the G10's

As you can see here and opposite, appear balanced when shot outdoors.

The Moto G30 struggles in low light.

Macro shots on the G30 have improved.



You'll need yo be in a brightly lit space to make the most of the selfie camera.

8Mp, but once again, you'll have to be in a brightly lit space to make the most of it. In low light, images suffer from grain, dullness, and general blurriness. You probably don't want the G30 if you're after that perfect shot for Instagram.

DISPLAY

Like the Moto G10, the G30 offers a 6.5in 'Max Vision' display with HD+ resolution (1,600x720). Once again, not much has changed here compared to other G series handsets, except that G30 brings a 90Hz refresh rate.

This might have been impressive a year or two ago, but with the budget Xiaomi Poco X3 NFC – currently the king of budget phones – packing a 120Hz display for just £40 more, it leaves room to question whether Motorola is truly attempting to be competitive.

The screen itself is bright and reached a maximum of 366 nits in my test. Colours also look vibrant, which makes the phone suitable for social media browsing and casual gaming.

While HD videos or films don't have the richness of detail you'd expect if you're used to higher resolution screens, the viewing experience isn't bad. The G30 is fine if you're after general browsing and streaming on your phone.

The bright display produces vibrant colours.

BATTERY LIFE

Like past G Series phones I've reviewed, the battery is the G30's undeniable strength. In the PC Mark for Android battery tests, the G30 managed a decent 11 hours and 40 minutes.

You can expect similar performance in the real world too. I managed to get away without charging for two days. The G30 ships with a 20W charger, though the phone itself charges at 15W. This isn't as fast as other budget phones on the market, such as the £279 Realme 8 Pro, which offers 50-watt fast charging, but bursts of charging through the day gave the G30 the boost it needed to keep me going for hours.

In my test, the G30 gained up to 32 per cent back in half an hour, but even a 5- to 10 per cent boost goes a long way. I could squeeze up to seven hours with 13 per cent remaining while in the battery-saving mode, a feature I loved.

Unlike other phones that simply strip functionality to calls and texts, the battery-saving mode on the G30 still allowed access to the camera, apps and social media, while preserving power in the background.

PERFORMANCE

The G30 relies on a Snapdragon 662, which makes it faster than the Moto G10, which runs on the Snapdragon 460. The Snapdragon 662 is the same gear as last year's G9 Play and G9 Power, so the overall benchmark results are similar.

You can see in our benchmarks that the G30's performance is on par with the G9 Play, and last year's G9 Power actually outdoes the G30 in the multi-core performance score.

While the overall performance on the G30 is mostly smooth, our Geekbench scores revealed it is on the slower end, compared to other budget handsets that are only marginally more expensive, such

as the aforementioned Poco X3 NFC and Realme phones, which all scored in excess of 1700. In my use, there were moments when I found the handset lagging when switching between apps.

Geekbench 5 (multi-core)

Motorola Moto G30: 1,264
Motorola Moto G10: 1,128
Motorola Moto G9 Power: 1,375
Motorola Moto G9 Play: 1,254
Realme 8 Pro: 1,721
Realme 7 Pro: 1,783
Poco X3: 1,764
OnePlus Nord: 1,963

GFX Manhattan 3.1

Motorola Moto G30: 26fps
Motorola Moto G10: 19fps
Motorola Moto G9 Power: 26fps
Motorola Moto G9 Play: 25fps
Realme 8 Pro: 27fps
Realme 7 Pro: 25fps
Poco X3: 27fps
OnePlus Nord: 34fps

Battery life

Motorola Moto G30: 11 hours, 40 minutes
Motorola Moto G10: 14 hours, 1 minutes
Motorola Moto G9 Power: 16 hours, 18 minutes
Motorola Moto G9 Play: 11 hours, 40 minutes
Realme 8 Pro: 12 hours, 51 minutes
Realme 7 Pro: 12 hours, 5 minutes
Poco X3: 14 hours, 24 minutes
OnePlus Nord: 11 hours, 26 minutes

Fast charge (30 minutes)

Motorola Moto G30: 32%
Realme 8 Pro: 82%
Realme 7 Pro: 92%
Poco X3: 59%
OnePlus Nord: 68%

Like its G9 siblings, the G30 fared better in the gaming tests. Its scores weren't far behind the Poco X3 or Realme phones, so my recommendation remains the same: while the G30 is not specifically a gaming phone, it will serve you fine for casual gaming and social media browsing, particularly because of its large battery.

If you want a gaming phone, see the best ones on the market here.

SOFTWARE

The G30 operates on Android 11, and like other G series phones, the experience is clean and as close to a pure Android as you can get without buying a Pixel phone. Gestural navigation makes the phone easier to use in one hand. Motorola also keeps the features I've come to love on the G series phones, such as the three-finger

screenshot and karate-chop motion to turn on the flashlight.

Less impressively, I found the G30 made a few unprompted reboots. This is partly a design issue and a UX issue. The G30's power button also launches the Google Pay screen, which hosts the emergency and power/restart options. It's likely I inadvertently tapped restart while handling the phone, but given the number of times this happened, there's clearly something that isn't working with the layout or sensitivity of the button.

The Moto G30 runs a clean version of Android 11.

VERDICT

Motorola churns out another run-of-the-mill budget G-series phone with the Moto G30. While it's affordable, it doesn't pass muster if you're after value. Fierce competition in the budget space from brands like Oppo, Xiaomi and OnePlus mean you can get a lot more bang for your buck, if you don't mind spending a few pounds more to begin with. The G30 isn't a total lost cause though. I would recommend the handset to parents looking to give their child their first phone – given the handset ticks off all the basics while squeezing in a 90Hz display and superb battery life.

The low price makes it less precious were your child to lose or break the thing, and the underwhelming camera might actually discourage your tween from posting photos to social media if online privacy is your concern. How's that for a silver lining? Somrata Sarkar

SPECIFICATIONS

- 6.5in (1,600x720; 269ppi) IPS LCD, 90Hz display
- Android 11
- Qualcomm SM6115 Snapdragon 662 (11nm) processor
- Octa-core (4x 2GHz Kryo 260 Gold, 4x 1.8GHz Kryo 260 Silver) CPU

- Adreno 610 GPU
- 4GB/6GB RAM
- 64GB/128GB storage
- Four rear-facing cameras: 64Mp, f/1.7, 26mm (wide), 1/1.97in, 0.7µm, PDAF; 8Mp, f/2.2, 118-degree (ultra-wide), 1/4.0in, 1.12µm; 2Mp, f/2.4, (macro); 2Mp, f/2.4, (depth)
- Selfie camera: 13Mp, f/2.2, (wide), 1/3.1in, 1.12µm
- Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct, hotspot
- Bluetooth 5.1, A2DP, LE
- GPS with dual-band A-GPS, GLONASS, GALILEO
- NFC
- USB Type-C 2.0, USB On-The-Go
- Fingerprint scanner (rear-mounted)
- Non-removable 5,000mAh lithium-polymer battery
- 165.2x75.7x9.1mm
- 200g

Nokia XR20

Price: £399 from /fave.co/2WcMIYj ★★★★☆

Nokia might just have hit the 'affordable rugged phone' sweet spot with the Nokia XR20. It's a reasonably priced, super-tough phone that isn't awful to use.

That might sound like I'm damning it with faint praise, but I'm not. Rugged phones are typically very good at the 'rugged' bit and not so good at the 'phone' bit, and with very good reason.

As a rugged phone manufacturer, the sheer investment required to make your smartphone atypically drop, heat, dust and water-resistant is surprisingly high. That means you have to cut corners with the internal specifications, at least if you want your rugged phone to come in at a price that hard-working people are willing to pay.

Case in point: the recent Motorola Defy. Built like a tank and competitively priced at £279, it nonetheless performs about as well as a normal phone worth less than half that amount. Its first line of defence against damage is that you don't want to use it much.

Nokia has elected to bump everything up a notch. At a slightly higher price of £399/€499, it retains its affordability. But a competent processor, display, and camera, as well as one or two unexpected luxuries, ensure that it just about passes muster as a modern smartphone.

DESIGN

I'll deal with the Nokia XR20's rugged credentials in the next section. What's most striking about it, though, is that it's relatively pleasant to handle.

At 10.6mm thick and 248g, it's no one's idea of a slim and pocketable modern smartphone. It's a tad slimmer than the Defy, but also 16g heavier. For further context, even the monstrosity that is the Xiaomi Mi 11 Ultra weighs a mere 234g.

Despite this, the Nokia XR20 doesn't feel like a war-ready tool. The colour of my Ultra Blue model (it also comes in Granite) serves to soften that military-industrial vibe, while the sides of the phone see solid, angled metal breaking through the tough plastic casing.

There's a little splash of colour on the top of the phone in the shape of a little red programmable 'emergency key'. I set this to turn on the phone's torch function, but you can opt to attribute any function to it.

Flip over to the bottom of the phone and you'll find a 3.5mm headphone jack, right in between a lanyard connection point and the USB-C port. All welcome, if not unexpected in this rugged smartphone category.

The left-hand edge contains its own bonus button, in the form of a textured Google Assistant button. I'm never convinced that such a thing is wholly necessary, but I suppose I could be convinced that some form of quick hands-free operation is useful in a gloved or dirty-handed scenario.

On the right-hand edge, you'll find the usual volume and power buttons,

The camera on the rear of the phone is surrounded by a thick metal frame for protection.

albeit with added tactile heft thanks to the robust metallic materials used. The power button is recessed in a little alcove, which helps steer your thumb into place for the built-in fingerprint sensor function. It works reliably, if not particularly swiftly, but that's more down to the device's performance shortfall.

Nokia's handset has been designed to take more of a battering than a normal phone.

The back of the phone sees the camera module protruding, which seems like a less sound decision than the Motorola Defy's recessed equivalent. But it is at least surrounded by a thick metal frame, and it remained scuff-free in my drop test.

RUGGED FEATURES

The whole point of the Nokia XR20 is that it can take far more of a battering than a normal phone could take. To that end, it has been certified with a MIL-STD–810H rating.

That's actually a slightly more up to date testing standard than was employed for the Motorola Defy's MIL-STD–810G, though this shouldn't necessarily be seen as the Nokia XR20 being any tougher. It just received a more up to date, and thus thorough, going over.

Ultimately this rating means that it's been put through a similar assault course of thermal shocks, extreme temperature tests, tumble and vibration gauntlets and exposure to various fluids. All the stuff that ensures a device can cut it in an actual war zone.

In my own less militaristic testing, I dropped the Nokia XR20 onto a concrete slab from a height of 1.2m, just as I did with the Motorola Defy before it. The results were broadly similar, with the Nokia XR20 coming away with a slight dink on the plastic corner that bore the brunt of the impact and some very light scuffing on the rear cover.

Crucially, there was no structural damage, and the display remained completely unscathed. That latter point is

partially due to the provision of Corning Gorilla Glass Victus, which is the high-grade glass material that's typically only used in top-end flagship phones.

Indeed, so confident is Nokia in its display strength, it's promised a 1-year free screen replacement. Not only that, but it provides an extended three-year warranty for the XR20.

The phone is IP68 certified too, so it'll stand up to full water immersion. It'll also stand up to hot liquids, which isn't something your average smartphone can boast. I ran the same 'coffee spill' test that I exposed the Motorola Defy to, which involved pouring several large glugs of 60°C water straight from a temperature-controlled kettle onto the device. After a quick towel down, the XR20 ran perfectly.

DISPLAY

As you may have guessed from the name, the Nokia XR20 is basically a rugged version of the Nokia X20 (Android Advisor 89), and you're essentially getting the same underlying screen. We found the X20's display to be "bright and detailed" in our review, and the same holds true here. Once you get past that impressively robust Gorilla Glass Victus covering, you're looking at a reassuringly ordinary 6.67in IPS LCD with a 2,400x1,080 (Full HD+) resolution. It's not especially vibrant – this is no OLED panel – but it hits a level of bare minimum competence that the Motorola Defy's display largely fails to achieve.

The key spec here is that Full HD+ resolution, which ensures that all forms of content look nice and sharp, even thumbnail images and tiny web browser text. Still, it's not unique among rugged phones, with both the CAT S62 Pro and the Doogee S88 Pro going with the same resolution.

Another important factor here is a decent 550 nits of brightness, which ensures that the phone retains viewability outdoors. That's crucial in

The phone's Full HD+ resolution ensures that all forms of content look nice and sharp.

a phone built to be used in fresh (and perhaps not so fresh) air.

One spec that doesn't quite keep pace with modern non-rugged phones is the Nokia XR20 display's 60Hz refresh rate. It was disappointing not to get 120Hz or even 90Hz in the Nokia X20, and it's still a little disappointing here – though of course, stamina considerations play a more prominent part with such an outdoorsy device.

Even so, the media playback experience is surprisingly decent on the Nokia XR20. Accompanied by a pair of stereo speakers that get plenty loud, if not especially detailed, it makes viewing video content viable even with a fair amount of background hubbub.

PERFORMANCE

We're all used to being underwhelmed by the performance of rugged smartphones, and the Nokia XR20 doesn't throw up any surprises. Again, this is the Nokia X20 at heart, so you get the very same Snapdragon 480 5G chip beating at its heart.

This is actually a relatively fresh provision from Qualcomm, built to a reasonably efficient 8nm production standard. But it's still modest when it comes to output, especially when backed by a mere 4- or 6GB of RAM rather than the X20's 6- or 8GB.

On the plus side, the Snapdragon 480 5G packs 5G connectivity (the clue's in the name). On the negative side, it's not going to be setting any speed records. An average Geekbench 5 multi-core score of 1642 might top rugged rivals like the Motorola Defy (1,401), the Doogee S88 Pro (1,347), and the CAT S62 Pro (1,310), but it gets nowhere near similarly priced non-rugged phones. The OnePlus Nord 2, to name the most recent high profile example, scored 2,694.

It's a similar story when it comes to GPU performance, the Nokia XR20 tends to score 1- to 2fps faster than Motorola Defy across several of our GFXBench tests, and tops the Doogee S88 Pro and CAT S62 Pro in several areas, but it gets trounced by the Nord 2.

Geekbench 5 (multi-core)

Nokia XR20: 1,642
Motorola Defy: 1,401
Poco F3: 3,184
Doogee S88 Pro: 1,347
OnePlus Nord 2: 2,694

GFX Manhattan 3.1

Nokia XR20: 16fps
Motorola Defy: 26fps
Poco F3: 61fps
Doogee S88 Pro: 11fps
OnePlus Nord 2: 57fps

Battery life

Nokia XR20: 18 hours, 48 minutes
Motorola Defy: 17 hours, 27 minutes
Poco F3: 14 hours, 24 minutes
OnePlus Nord 2: 11 hours, 17 minutes

Fast charge (30 minutes)

Nokia XR20: 35%
Motorola Defy: 32%
Poco F3: 72%
OnePlus Nord 2: 100%

When it comes to gaming, PUBG Mobile defaults to HD graphics and a High frame rate, under which it runs well. Just as with the Nokia X20, unsurprisingly. But if you want to push things further for similar money, you're going to have to drop the ruggedization and go with a Poco F3 or the Nord 2.

In general day to day use, the Nokia XR20 runs along just fine. But it lacks the smoothness and the responsiveness of even non-rugged phones selling for half the price. Part of that is down to the modest processor, and part is down to the 60Hz screen refresh rate.

This top model comes with 128GB of internal storage, rather than the relatively slight 64GB supplied with the entry model. There is a microSD slot provision if you want to expand that, though.

PHOTOGRAPHY

I've mentioned a few times that the Nokia XR20 is based on the Nokia X20, but somewhat curiously that doesn't apply to the cameras. Nokia has gone with a slightly different, simpler dual-sensor provision. You get a 48Mp wide sensor and a 13Mp ultra-wide, and that's your lot.

We're not at all upset at losing the Nokia X20's 2Mp macro and depth sensors, which were pretty useless in truth. It's a shame there's still no telephoto lens, though.

Together, this simplified system is capable of getting reasonable results. The main 48Mp sensor captures fairly balanced, natural-looking shots in good

On the rear you'll find a 48Mp wide sensor and a 13Mp ultra-wide lens.

lighting, with auto HDR stepping in well to rescue potentially over or under-exposed shots. The ultra-wide loses a certain amount of contrast, detail, and colour pop, with a more faded and soft look compared to the main sensor. But it's a lot better than many lower to mid-priced equivalents we've used.

Portrait mode works quite well to isolate the subject with an exaggerated bokeh effect, but the tone of the skin and the general level of exposure seems to suffer versus simply shooting with the default auto mode. After testing, I left the mode well alone.

Ditto the 8Mp selfie camera, though in this case, the tendency to over-expose in selfie-portrait mode seemed to help inject some much-needed life and pop into the otherwise dull regular shots.

Night mode at least avoids the lazy tendency to simply apply a fake brightening effect, but that does also mean that very low light shots look a little murky. There's no OIS (optical image stabilization) to keep things crisp here.

Video is a bit of a write-off too, with the possibility of a mere 1080p at 60fps.

All in all, you can get a much better camera system if you're willing to forego that rugged build. The OnePlus Nord 2 packs in a flagship image sensor, while the Pixel 4a benefits from Google's image processing wizardry.

Ultra-wide shots lose a certain amount of detail.

The Nokia's main lens produces reasonable shots.

Night mode avoids the lazy tendency of other phones to apply a fake brightening effect.

Here's a regular photo without using portrait mode.

Portrait mode works quite well to isolate the subject with a bokeh effect.

Next up, we have a regular selfie.

The tendency to over-expose in selfie-portrait mode seemed to help inject some life into the otherwise dull regular shots.

In the limited terms of a rugged phone, however, the Nokia XR20 camera gets just about respectable results.

BATTERY LIFE

The Nokia XR20 packs in a 4,470mAh battery, which is a decent size, though far from huge. The Motorola Defy features a 5,000mAh battery, by comparison.

Still, it's more than up to the task. You'll be able to get through two days on a single charge if you don't push things too hard with movies, games and the like. A PC Mark battery test score of 18 hours 48 minutes is truly excellent, and comfortably beats the Motorola Defy's 17 hours 27 minutes.

The Nokia supports 18-watt wired charging, which isn't all that fast for an ostensibly mid-range phone. Even the Motorola Defy packs in a 20-watt charger. What's more, you don't get any charging brick supplied in the box of the Nokia XR20 – just a USB cable. Once I did hook up a suitably meaty charger, I was able to get it from 0 to 35 per cent in half an hour. Not exactly speedy, but a smidgen faster than the Motorola Defy at least, courtesy of that smaller capacity.

Refreshingly, though, the Nokia XR20 does support wireless charging. This is surprising given that the Nokia X20 on which this phone is largely based doesn't include it.

SOFTWARE

One strength the Nokia XR20 shares with the Motorola Defy is its dogged adherence to a pure strand of Android, with few of the custom UI distractions produced by most other manufacturers.

Indeed, the Nokia XR20 technically wins out here, with Android 11 rather than Android 10 at its core. What's more, Nokia's commendable focus on legacy support means that you're guaranteed

The XR20 runs Android 11 and Nokia promises three years of OS upgrades and four years of monthly security updates.

three years of OS upgrades and four years of monthly security updates.

There's a lot to be said for this Android One approach, with much of the heavy lifting done by Google's excellent suite of pre-installed apps. You don't get any confusing secondary web browsers, no gaudy theme stores, and no duplicate media apps.

You do get a few preinstalled third-party apps, however, such as Spotify, Amazon, ExpressVPN, and Nokia's own My Phone customer service app. But at least they're all stashed away in a single, separate folder.

VERDICT

As rugged phones go, the Nokia XR20 is one of the most balanced and broadly appealing we've used. It's tough in all the right places, but it's also reasonably painless to use.

Make no mistake, this isn't a particularly well-specced phone. But it has a sufficiently bright and sharp display, and its camera isn't a total write-off. You even get surprise little luxuries like wireless charging and stereo speakers.

The design, while hardly slinky or downright attractive, isn't a total eye-sore, with appealingly industrial exposed metal sides and a pleasantly non-utilitarian shade of blue. There's also get the security of an extended warranty, a year's free screen replacement scheme, and an admirably long software update commitment from Nokia.

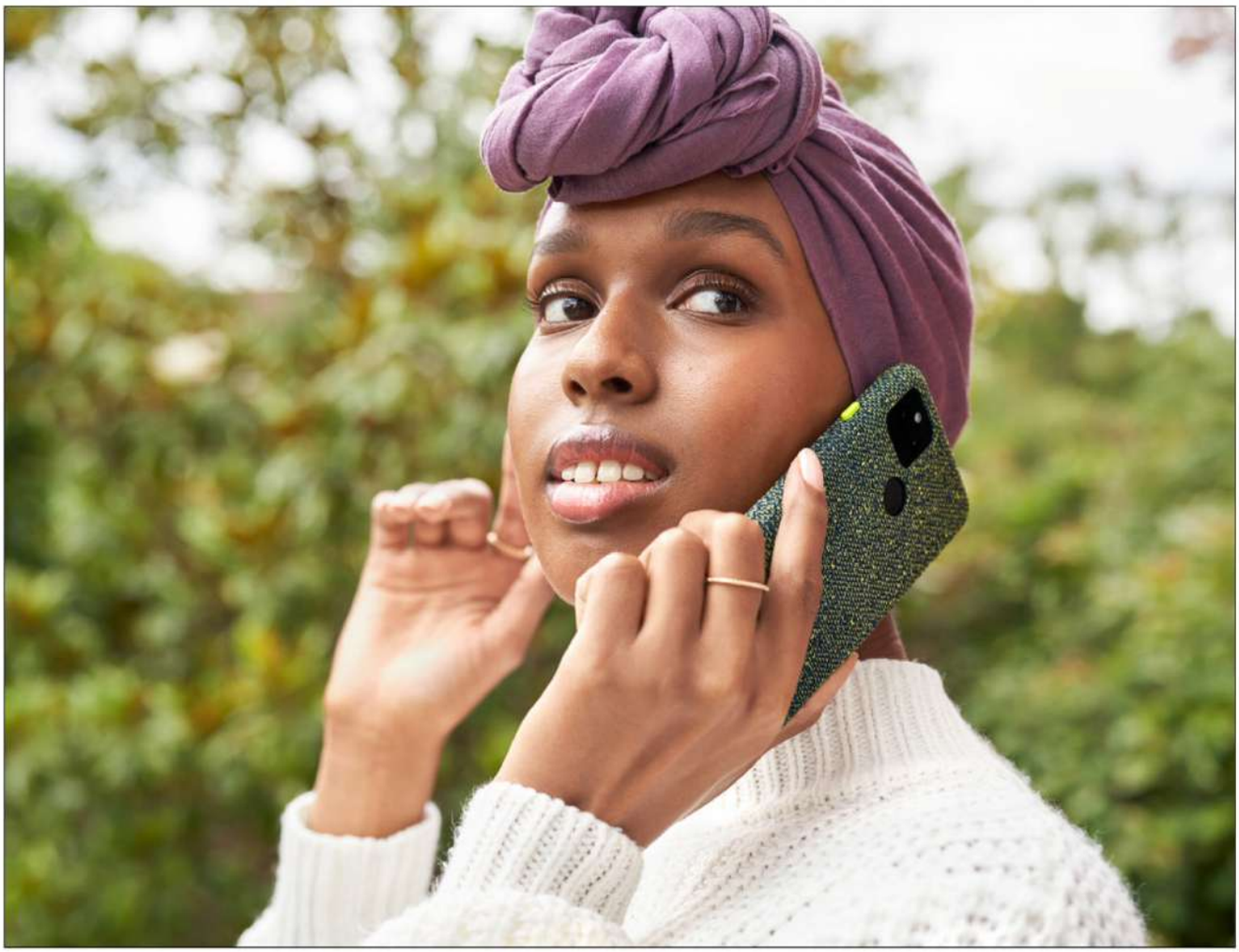
Not that the company has hit a home run here. Performance is fairly mediocre, and we would have liked to see a little more oomph in the CPU department. Elsewhere, a slightly higher screen refresh rate would go a long way to making the XR20 feel a little more current, while the advances made by affordable 'normal' phones make us think there's still room for improvement in the camera department.

But if you're in the market for a genuinely tough phone that won't break the bank, and that can stand up to home life as well as extreme environments, this is just about as good as it gets right now. Jon Mundy

SPECIFICATIONS

- 6.67in (2,400x1,080; 395ppi) IPS LCD, 90Hz display
- Android 11
- Qualcomm SM4350 Snapdragon 480 5G (8nm) processor
- Octa-core (2x 2GHz Kryo 460, 6x 1.8GHz Kryo 460) CPU
- Adreno 619 GPU
- 4GB/6GB RAM
- 64GB/128GB storage
- Two rear-facing cameras: 48Mp, f/1.8, (wide), 1/2.25in, 0.8µm, PDAF; 13Mp,

f/2.4, 123-degree (ultra-wide), 1/3.0in, 1.12µm
- Selfie camera: 8Mp, f/2.0 (wide), 1/4.0in, 1.12µm
- Wi-Fi 802.11 a/b/g/n/ac/6, dual-band, Wi-Fi Direct, hotspot
- Bluetooth 5.1, A2DP, LE, aptX Adaptive
- GPS with dual-band A-GPS, GLONASS, BDS, GALILEO, QZSS, NavIC
- NFC
- USB Type-C 3.0
- Fingerprint scanner (side-mounted)
- Non-removable 4,630mAh lithium-polymer battery
- 171.6x81.5x10.6mm
- 248g



12 Google Pixel phone tips

Power up your Pixel experience with these productivity-boosting Android extras. JR RAPHAEL reports

One of the best parts of using a Pixel is the way tasty little specks of Google intelligence get sprinkled all throughout the experience. Those small but significant morsels show off the value of having Google's greatest ingredients integrated right into your phone's operating system, without any competing forces or awkwardly conflicting priorities at play.

And that certainly makes a world of difference. The features in question may not always be the most eye-catching or marketing-friendly advantages, but

they're incredibly practical touches that can make your life easier in some pretty powerful ways.

Here we zoom into the Android Overview area. The interface for switching between recently used apps is overflowing with advanced actions on a Pixel phone, and once you discover (or maybe just remind yourself) what's there, you'll be saving time and flying around your phone like nobody's business.

You should note that most of the possibilities on this page require Android 11 or higher to work.

1. THE QUICK TEXT COPY

We'll start with a simple but supremely helpful feature for copying text from practically anywhere in a snap. You can use it to snag words from something like a web page or a document, sure, but you can also use it to highlight and copy anything from within an image, a screenshot you'd previously saved, or even an area of Android that wouldn't typically let you select and copy text – like a specific screen within the system settings, for instance.

Whatever the case may be, simply open up your Pixel's Overview interface – by swiping up an inch or so from the bottom of the screen and then stopping, if you're using Android's current gesture system, or by tapping the square-shaped button at the bottom of the screen, if you're still holding onto the old legacy three-button nav set-up – and then press and hold your finger onto the words you want within the view of your most recently used app (or any other app in your current history).

As long as your phone is running Android 11 or higher, you should see the text in question get selected. And you can then slide your finger around as needed to expand or refocus the selection. If you want to select all of the visible text on the screen, you can also use the relatively new 'Select' command at the bottom of the Pixel Overview interface. Either way, once your text is selected, all that's left is to hit the 'Copy' xcommand in the menu that comes up.

At that point, you can head into any other app or process you want – an in-progress email draft, a messaging app, or perhaps a note-taking tool of some sort – and press your finger down in any text editing field to pull up the 'Paste' command and send your freshly copied contents wherever they need to be.

2. THE SPEEDY TEXT SHARE

In addition to copying and pasting text from anywhere, the Pixel's Overview interface allows you to share text and send it directly into other apps and processes on your phone. It's an even

easier way to beam the info you need directly to the place where you want it, especially if the final destination is a new email, note or message (as sharing will typically place the info in question into a new item instead of a draft you were already working on).

Open up the Overview interface and then press and hold your finger onto whatever text you want to copy within the preview of any recently used app. The only difference is that this time, you'll select 'Share' from the menu that comes up, and then select whatever app you want to send the text to from there.

If what you require is context, you can also select 'Search' instead of 'Share', and your Pixel will send the text into a new Google Search.

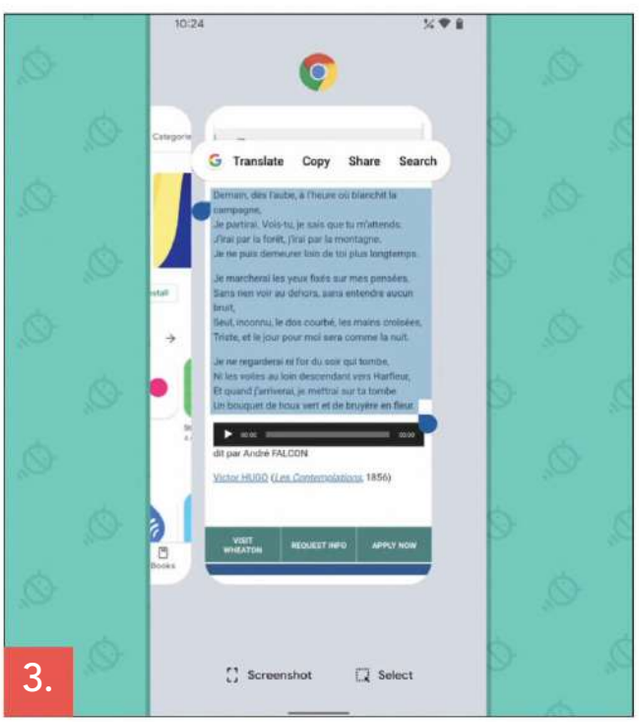
3. THE LANGUAGE-TRANSLATING GENIE

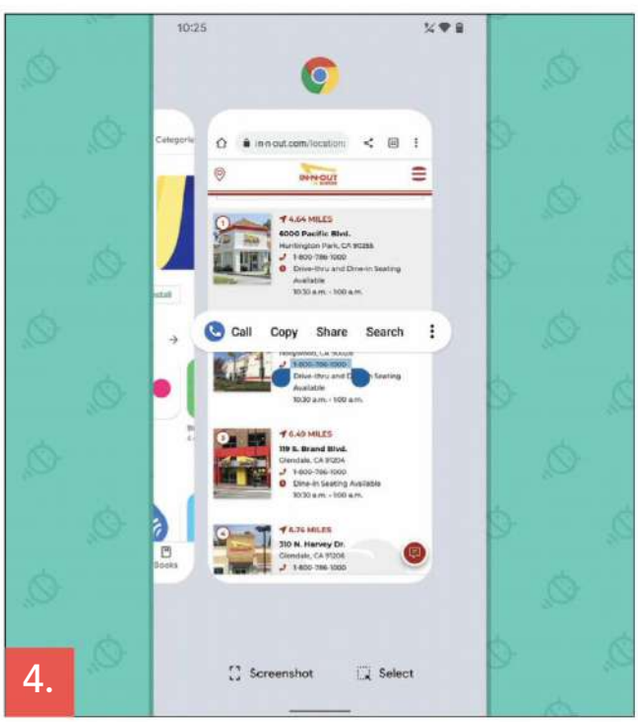
If you highlight some text within your Pixel phone's Overview interface that isn't in your native tongue, your phone will automatically offer to translate the text on the spot for you.

4. THE SMOOTH TEXT OPERATOR

Whenever you've got a bit of text that's associated with an action on your phone, you can highlight it in your Pixel's Overview interface (using the same process we've used in our first tips) and then find a specific option for acting on it in whatever way makes the most sense.

Here are a couple of examples:

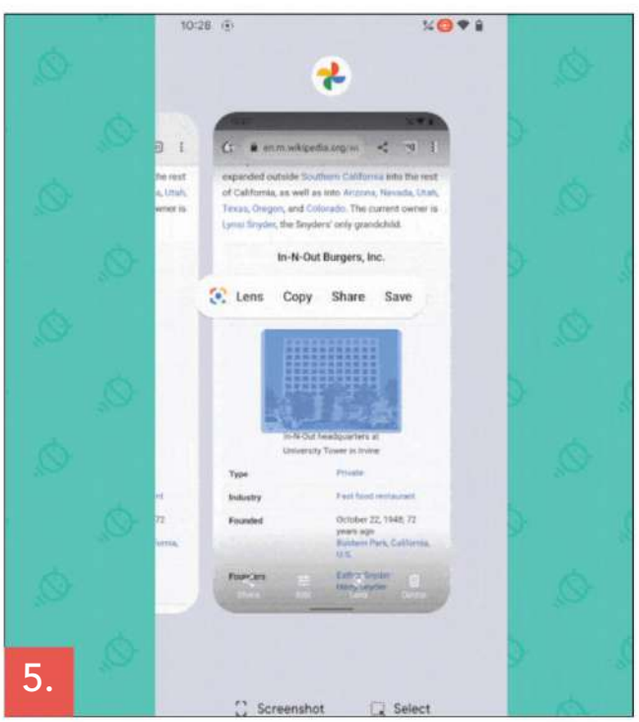




- If you highlight a phone number within Overview – in a web page, an email, even a screenshot you captured of something six months ago and just pulled up in the Photos app – your Pixel phone's Overview spirit will summon up the option to call that number with a single fast tap.
- Highlighting an address in Overview will give you the option to beam it over directly into a Google Maps navigation.

5. THE INSTANT IMAGE EXTRACTOR

When you've been looking at anything involving an image in an app – a web page, a social media feed, even a screenshot that had photos within it – you can press and hold the image inside your Pixel's Overview area and then pull it out of the preview for simple sharing or saving.



5.

It's a great way to save anything you encounter anywhere – even in places where you can't usually extract images easily – and then zap it over into a note, email, message or anywhere else you might need it.

6. THE INTELLIGENT IMAGE SEARCHER

Google's image intelligence technology is built right into your Pixel phone's Overview area for searching within images in any apps you've been using.

Pull up your Pixel's Overview interface and press and hold any image you see within an app's preview. That should make 'Lens' pop up as an option. And if you tap it, Google's smart system will do a number of different things, depending on the context:

- It'll identify a landmark, a painting, or even a plant or an animal, if one is pictured, and then offer up additional info about that object.
- It'll scan a barcode or QR code.
- It'll show you images similar to the one on your screen within Google Image Search along with information and links related to what's pictured, including shopping-related links so you can

compare prices and purchase the item in the picture, when relevant.

- It'll offer to read text within an image out loud to you.
- It'll offer to send text within image over to a computer where you're also signed in (in Chrome) for hassle-free cross-platform copying.

7. THE SIMPLE SCREENSHOT MACHINE

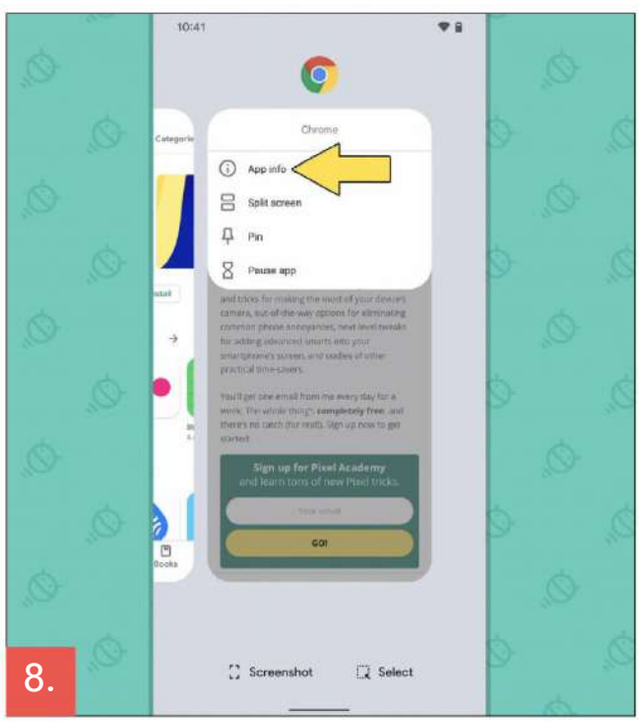
Android has always let you capture screenshots with a press of a phone's power and volume-down buttons, but that key combo isn't always convenient to activate – at least, not without some serious hand yoga involved.

So make a mental note of this: you can always capture a screenshot of anything by sliding your way over to your Pixel's Overview area. Ergonomics aside, that gives you the advantage of getting a completely clean and neat image of whatever's on your screen, without all the usual system interface elements (the status bar, the navigation bar or buttons, and so on) around it.

Go back into Pixel Overview area and look for the 'Screenshot' command at the bottom of the screen. Tap it and you'll be staring at a static image of whatever you last had open by itself, without any other elements.

8. THE APP INFO SHORTCUT

Ever find yourself needing to head into an app's information screen? The swiftest way to get there while you're



using an app is to open up the Overview area on your Pixel, tap the app's icon at the top, and then select 'App info' from the menu that comes up.

9. THE SPEEDY SCREEN-SPLITTER

One of Android's most overlooked features is the system-level option for splitting your screen in half and viewing two apps at the same time. It isn't something you're likely to need all that often, but when the right occasion comes along – working on a document while simultaneously referencing a web page or email, for instance – it's handy. To turn on this feature, open Overview, tap the icon of the first app you want to use in your split-screen set-up and then tap 'Split screen' in the menu that appears. That app will move up into the upper area of your screen, and you can then select the second app you want to complete the picture.

10. THE APP-PINNING POSSIBILITY

A handy but hidden Android feature I always forget to use is the software's app-pinning system. Once activated, it lets you lock one specific app or process to your screen and then requires a PIN or passcode before anything else can be accessed.

The idea is that you could pass your phone off to a friend or a co-worker – maybe so they can see a document or look at something on a website. And since you proactively pinned whatever app was relevant to that purpose to your screen, you can rest easy knowing the rest of your stuff will remain secure and inaccessible until the phone's back in your hands.

To get this one going, you first need to fire up the feature within your Pixel phone's settings:

- Swipe down twice from the top of the screen, then tap the gear-shaped icon to open up the system-level settings.
- Tap the Security section.
- Tap the 'Advanced' line at the very

bottom of the screen, then tap 'App pinning'.

- Make sure the toggle at the top of that screen is in the active and on position, and make sure the secondary toggle ('Lock device when unpinning' or 'Ask for unlock pattern before unpinning', depending on your Android version) is also active.

Now, with that option active, hop back into your Pixel Overview area, tap the icon of any app you want to pin, and look for the aptly named 'Pin' option in that adorable little menu.

Tap that and the app will be locked in place. To get past it and into anything else, you'll first have to swipe your finger up from the bottom of the screen and hold it in place for a few seconds, then provide whatever manner of unlocking authentication is appropriate to continue.

10.

If you're still using Android's old three-button nav system, you'll instead press the square-shaped Overview button to get to the Overview interface, and you'll press and hold the Back and Overview buttons together from there when you're ready to unpin.

11. THE PAUSING POWER

This next item is another oft-overlooked Android option. It lets you temporarily pause an individual app, which means the app's icon will get greyed out and the app won't be able to send you any notifications until either you unpause it or the day ends – whichever comes first.

The app-pausing power is always just two taps away in your Pixel's Overview area: get to that Overview interface, touch your finger to the icon of whatever app you want to pause, and then press the 'Pause app' option. If you decide you want to unpause the app before the day's done, just find and tap its icon within your home screen or app drawer, and your phone will prompt you to undo the deed.

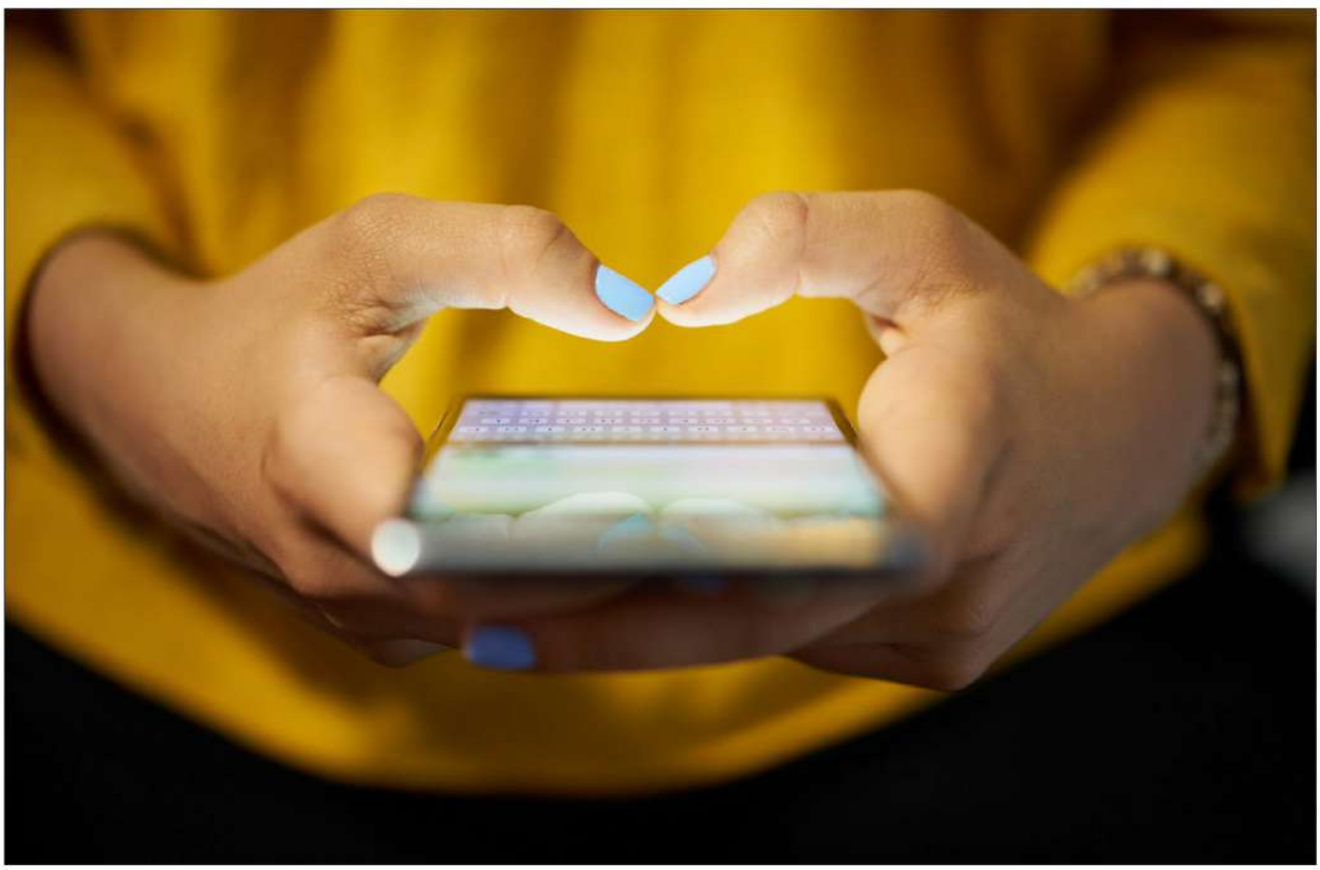
12. THE FRESH START FLICK

Last but not least is an option that's widely misunderstood and probably

used more often than it should be. But it's certainly worth being aware of for the right sorts of situations.

So here it is. While viewing any app within your phone's Overview area, you can flick its card upwards to dismiss it from the list. That'll also dismiss the app out of your phone's active memory and cause it to start up fresh the next time you open it instead of picking up where you left off, as it normally would.

Despite what some people believe, there's no need to do this as a matter of habit. Android automatically manages its active memory and removes stuff as needed. Because of that, constantly closing everything out as a form of compulsive 'cleaning' is both unnecessary and even counterproductive (since the system will automatically restart anything that needs to be running, which then leads to even less efficient use of resources). But when an app is acting up or for some other reason requires a reset, this one-two tip is a fine Overview tool to remember.



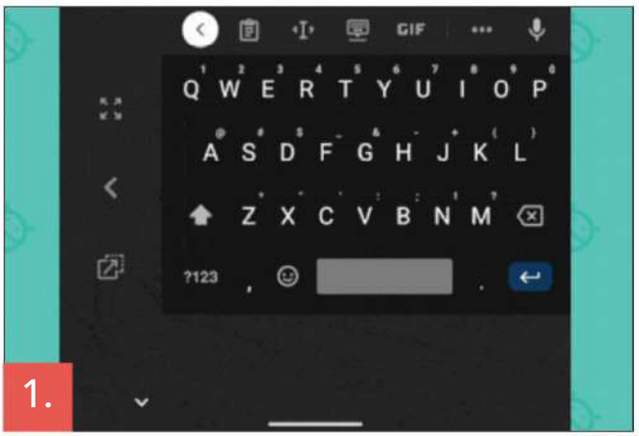
Credit: Getty Images/diego_cervo

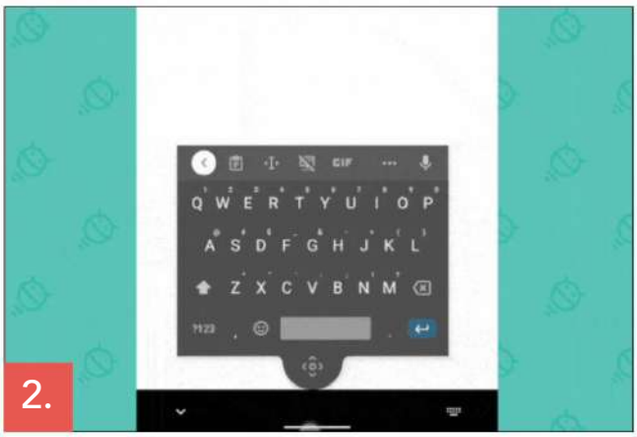
10 Gboard shortcuts

Ready to save yourself tons of time and effort? These Gboard tricks are just what the (smartphone) doctor ordered. JR RAPHAEL reports

If there's one thing we take for granted, it's just how good we've got it when it comes to typing out text on our pocket-sized phone machines. It's all too easy to lose sight of over time, but typing on Android is an absolute delight. And all it takes is 10 seconds of trying to wrestle with the on-screen keyboards on that other smartphone platform to appreciate our advantage.

There are plenty of exceptional keyboard choices, but Google's Gboard keyboard has really risen up as the best all-around option for Android input as of late. That's in large part because of its top-notch typing basics and its seamless integration of tasty Google intelligence, but it's also because of all the clever little shortcuts it has lurking beneath its surface.





1. ONE SECOND TO ONE-HANDED

Look, there's no way around it: sometimes, when you're typing, you need to rely on a single hand. And Gboard's got a great one-handed typing mode that's incredibly easy to access.

Press and hold Gboard's Enter key for about a second. That'll activate the Gboard one-handed system and shrink your on-screen keyboard down to a smaller size. You can then dock your fun-sized mini-keyboard to the left or right side of your screen for easy access.

From there, you can use the controls on the screen to change the keyboard's exact positioning. And when you're ready, you can also snap it back into its normal full-width mode with one fast tap.

2. FLOATING KEYBOARD MAGIC

In addition to that one-handed keyboard contortion, Gboard has a floating keyboard that lets you move your Qwerty companion anywhere on your screen and even shrink it down into a simpler-to-swipe miniature version of itself.

Once you've got Gboard broken out into that floating mode, you can move the keyboard down towards the bottom of your screen to re-dock it and get back to normal.

3. PRESS AND HOLD

One of Gboard's most convenient Android typing shortcuts is the way the keyboard lets you pull up both numbers and special characters simply by long-pressing regular keys. It's a much faster way to get to what you need than going through the various secondary screens to find stuff.

The secret to this one resides in a tucked-away setting. Here's how to find and activate it:

- Tap the three-dot menu icon within Gboard's upper row. (If you don't see

that icon there, tap the left-facing arrow at that row's left edge to reveal it.)

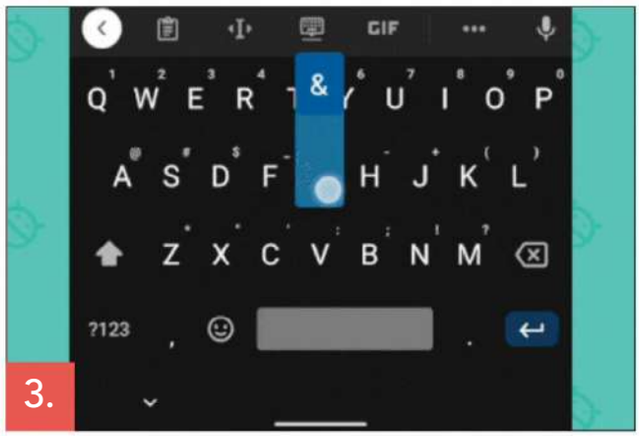
- Look for the gear-shaped Settings icon on the screen that comes up.
- Tap 'Preferences', then scroll all the way down to the bottom of that screen.
- See the line labelled 'Long press for symbols'? Flip the toggle next to that sucker to turn it on – and while you're at it, go ahead and turn on the toggle next to 'Popup on keypress' if it isn't already activated, too.

Back out of that menu and pull up Gboard again, and you should see a bunch of handy secondary key options within the upper-right corners of every key on your keyboard. You can then press and hold any key for a second or so to pull up its alternate option.

If you have a dedicated number row at the top of your keyboard, you might even consider turning it off to make the keyboard smaller – since this setup serves the same effective purpose and makes those numbers every bit as accessible. The option to do that is in the same area of the Gboard settings we just visited.

4. THE OTHER PUNCTUATION STATION

That long-press method is hands-down the fastest way to access most popular



3.

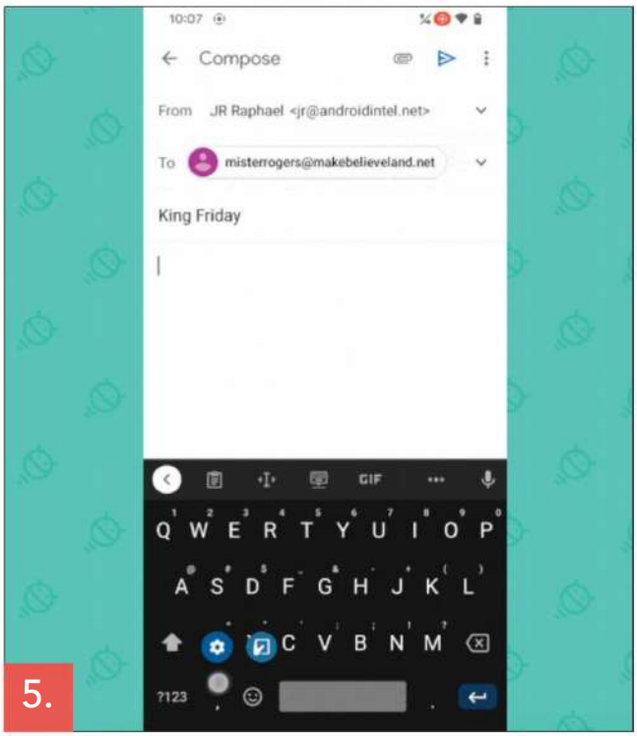
4.

forms of punctuation on Gboard, but a couple common characters are curiously missing from that arrangement. Among them is the humble slash.

To uncover that simple slanted line, press and hold the Gboard period key for a second, then slide your finger over toward the left to find and activate the appropriate symbol.

5. A FASTER PATH TO SETTINGS

Speaking of Gboard and punctuation, here's a splendid little shortcut worth filing into the back of your brain for



future use. The next time you need to get into Gboard's settings, skip the multi-step method we went over a minute ago and instead press and hold the keyboard's comma key for a second, swipe up a bit, and then let go.

6, 7, 8, & 9. THE SWIPE SISTERS

This next series of Gboard shortcuts are all about swipe-related time-savers for your favourite Android keyboard.

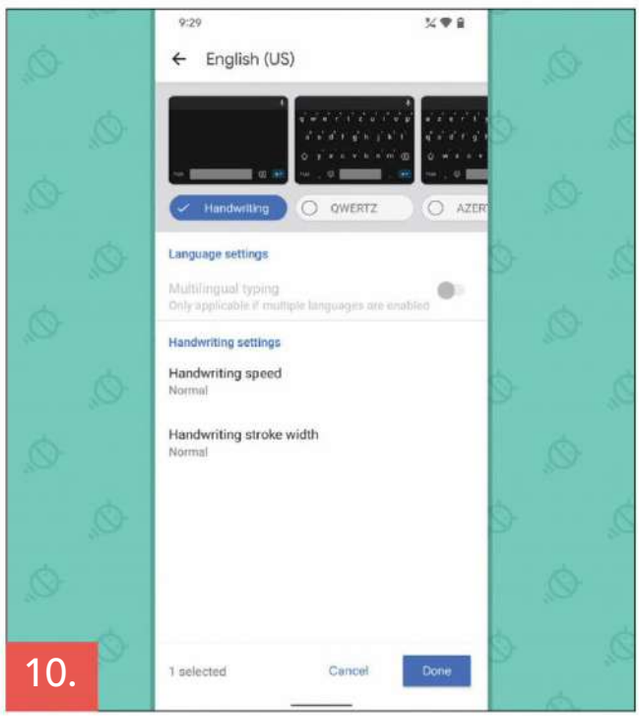
- You can swipe your finger along Gboard's space bar to move your on-screen cursor whilst in any text field.
- You can swipe up from the '?123' key to find and access even more special characters in the blink of an eye.
- Swiping up from Gboard's Shift key will let you capitalize any letter quickly.
- Swiping toward the left on the Gboard Backspace key will give you an easy way to delete a bunch o' text at once.

10. THE WRITE STUFF

Last but not least is one of Gboard's least-known gems, and that's the keyboard's surprisingly effective system of on-screen writing input.

You can type out text by scribbling it onto your screen with a stylus or your finger. It can be a convenient way to enter text in the right sort of situation, and it's also just a fun trick to try.

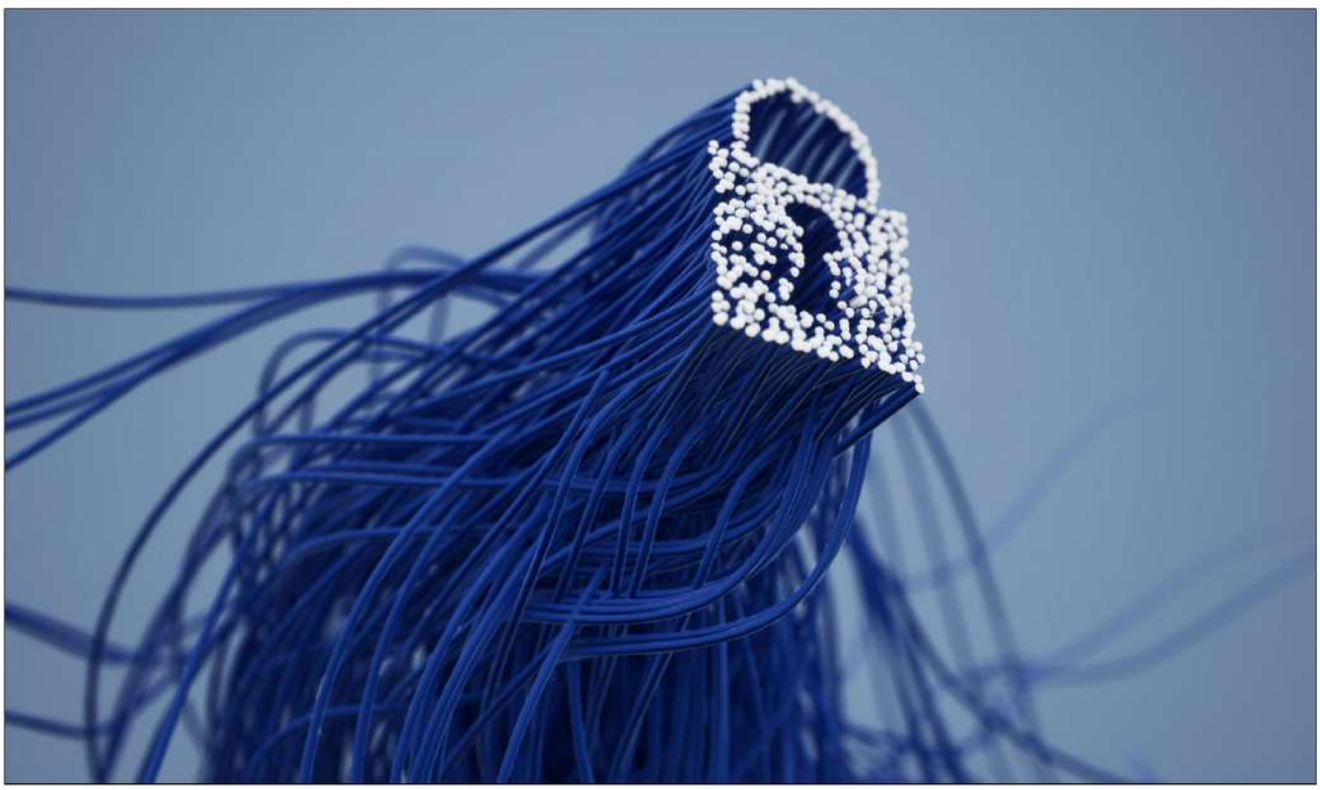
To activate Gboard's handwriting mode for yourself, open the keyboard's settings, then tap 'Languages'



followed by the Add Keyboard button. Type 'English (GB)', then make sure 'Handwriting' is active and highlighted at the top of the screen. Now, just hit the Done button to apply the changes.

Pull up Gboard once more, and you should now be able to press and hold the space bar or hit the globe icon next to it to toggle between the standard keyboard setup and your snazzy new handwriting recognition system.

Once you've got that handwriting canvas open, all that's left is to write and watch Google translate your squiggles into regular text almost instantly.



Credit: Getty Images/3alexd

How to give your phone an Android 12-inspired privacy upgrade

No Android 12? No problem. You can bring the software's latest layer of privacy protection onto any phone. JR RAPHAEL reports

Android 12 sure is an onion of an update. Now, don't get me wrong: I'm not suggesting it's fragrant, likely to make you cry, or positively delicious when cooked in a stir-fry. I just mean that it has lots of layers to it, including some that are beneath the surface and impossible to see when you're only glancing from afar.

Android 12 is full of changes both big and small, in fact – and while many of its most noticeable external elements will be limited to Google's own Pixel phones, some of the improvements tucked away

in those sticky lower layers are arguably the most important changes of all.

That's particularly true when it comes to the realm of privacy. Android 12 has a whole host of helpful privacy enhancements. And one of them is something you can bring to any Android device this second .

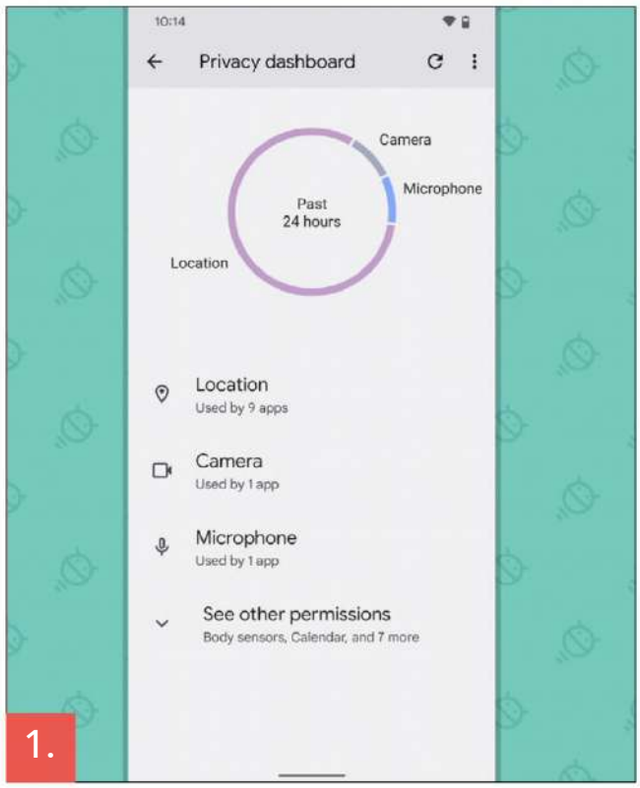
PRIVACY

The secret to effective privacy is an app called Privacy Dashboard. As its name suggests, the app emulates one of Android 12's most prominent privacy features – its one-stop dashboard for monitoring exactly how apps are accessing potentially sensitive types of information on your phone and then allowing you to reclaim control.

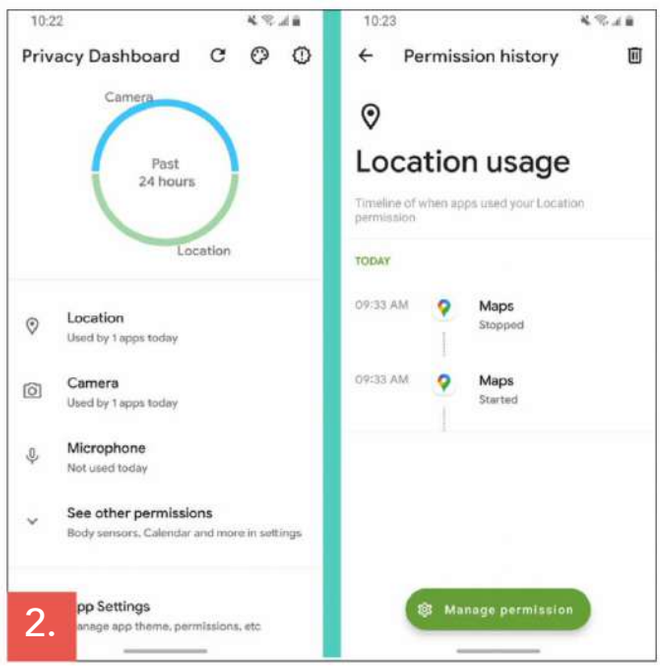
The Android 12 feature it's modelled after is also called the Privacy Dashboard. And to say this app's implementation takes inspiration from it might actually be an understatement.

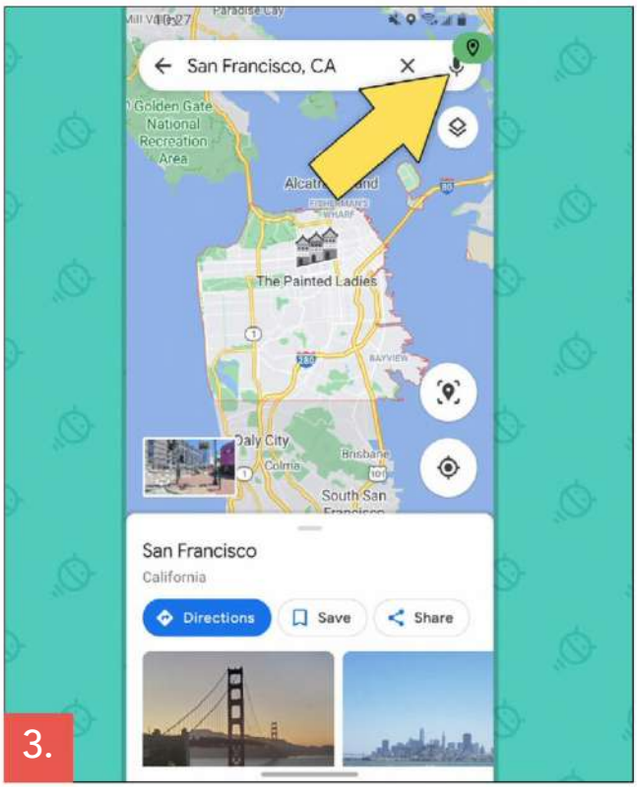
Above is the actual Android 12 Privacy Dashboard, as designed by Le Googlé (1.). You can then tap on any specific permission type within that panel to see a precise timeline of every app that accessed it and when.

And from there, it's just one more fast tap to open an app's list of granted permissions and scale back or revoke what it's able to do.



Here is the interface you get with the Privacy Dashboard app – no matter what Android version you're running (2.).





The app has a nice little bonus built in, too. In addition to the extremely Android-12-like dashboard it gives you, the tool graces your phone with another Android-12-inspired privacy advantage – the ability to see in real-time whenever an app is accessing your camera, microphone, or location (3.).

Whenever an app is tapping into any of those sensors, you'll get an icon in the upper-right corner of your screen that alerts you to the activity. It'll show up whether the app in question is visible on your screen or accessing the sensor from the background. That way, if any such indicator pops up when you aren't expecting it, you can march right over to the full dashboard to see what's going on and why.

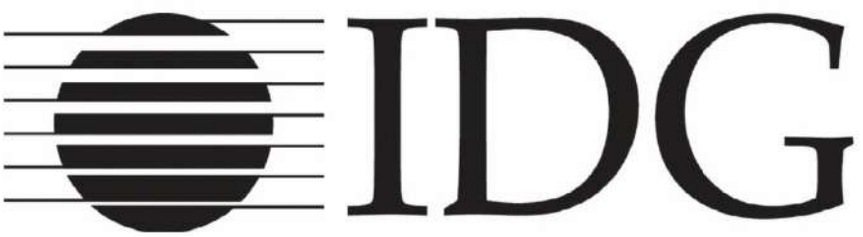
Now, for the nitty-gritty of all of this: Privacy Dashboard is completely free to use. There are optional in-app donations if you want to support the developer, but as of now, they don't unlock any extra features.

As for the related subject of privacy, the app does require a couple forms of advanced system-level access in order to do what it needs to do, but it's all perfectly justifiable. The developer even explains what exactly the permissions are and why they're needed on the app's Play Store page and within the initial setup screens. And if you're at all worried about what the app could do with your data, just look at its app info page within your system settings. You'll see that it doesn't even have the ability to access the Internet, which means there's no real way it could transfer information off of your device, even if it wanted to.

Lots of Android 12's privacy features require deep operating-system-level integration in order to operate – things like the software's more nuanced and narrowed-down systems for providing location access to apps in the first place and its automated hibernation system that disables apps entirely and prevents them from launching background processes if you haven't interacted with

them in a few months. Android updates in general absolutely do matter, and those are the perfect examples of why.

But when it comes to a feature like the Privacy Dashboard and the associated sensor access indicators, you don't need Android 12 to enjoy the added bits of protection. All you need is the right tool for the job.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